GOVERNMENT OF KERALA

REPORT OF THE COMMITTEE

ON

UNEMPLOYMENT IN KERALA

PART I

STATE PLANNING BOARD, KERALA
TRIVANDRUM

PREFACE

The pressure of unemployment has been building up over a long period; it has now reached explosive heights in Kerala. The problem needs to be tackled on a warfooting. As per G. O. (Rt) No. 255/70 Plg. dated 13-11-1970 a Committee consisting of Professors P. G. K. Panikar and T. N. Krishnan, University of Kerala, Prof. K. S. L. Panikkar, Chief Evaluation Officer and Dr. P. K. Gopalakrishnan, Member-Secretary, State Planning Board was constituted to undertake a study of the problem of unemployment in all its aspects with a view to suggesting remedial measures capable of creating an immediate impact.

After analysing the available data on unemployment, the Committee held discussions with officers of concerned Government Departments such as Agriculture, Irrigation and Industry and representatives of related promotional agencies. We take this opportunity to place on record our deep sense of gratitude to all who gave us the benefit of their experience and expertise.

An analysis of the nature and magnitude of unemployment in Kerala shows that the problem defies immediate solution and that it could be tackeld only within the frame work of long term economic development of the State. This calls for a more detailed study and thorough examination of policy prescriptions which will take considerable time and effort. In view of the urgency of the problem we present in this Part of our Report proposals which can be implemented immediately; this will be followed by a final report in due course.

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SUMMARY AND RECOMMENDATIONS

The problem of unemployment in Kerala is assuming serious proportions and it is receiving increasing attention from both the public and the Government. On the basis of the findings of a sample survey, open unemployment in 1965 was estimated at 5.47 lakhs, forming 9.1 per cent of the labour force; in addition, 13.78 lakh persons were reported to be under employed. No comprehensive survey of unemployment has been conducted since then so that only broad approximations about the subsequent trends of unemployment could be derived. A rough estimate based on Employment Exchange data indicates that open unemployment has presumably risen to 9 lakhs by now, which would constitute 13 per cent of the labour force. Taking into account the projected labour force and the likely increase in employment, the number of under-employed may be estimated to have increased to 17.8 lakhs.

Considering the severity of unemployment and under-employment, the Committee has drawn up proposals for an investment of Rs. 186 crores. Certainly, this represents an ambitious programme, but the Committee feels that investment on this scale is the irreducible minimum necessary to make an impact on the worsening employment situation.

Though the Committee has been constituted to recommend measures which will make an immediate impact, after a careful analysis of the nature and magnitude of unemployment, it has come to the conclusion that *ad hoc* measures and make-work projects will not solve the problem. Therefore, the Committee felt that only projects which will lead to capital formation, increase in productivity and introduction of new technology, besides creation of employment, should be recommended.

As far as employment is concerned, the agricultural sector in the State has reached the saturation point. Nevertheless, there is some scope for employing more labour in agriculture by way of expanding the infrastructure, land reclamation, plant protection, agricultural research and extension. These programme incorporate the broad approach of the Committee, viz., reconciling the twin objectives of creating employment and stepping up the rate of capital formation and economic development.

While recognizing the importance of agricultural and allied activities in providing employment, the Committee strongly believes that the long-run solution to the problem lies in industrialisation. This is brought into bold relief when we examine the past record of industrial development here. Local entrepreneurship has been shy or non-existent. Outside entrepreneurs have studiously avoided Kerala. Kerala's share of Central projects has been only nominal. As against these, the State Government's investment in the field of industry was only of marginal significance, since there was heavy and irresistible pressure from other sectors, especially education, public health and other social services, on the State's limited resources. Given the above constraints, the Committee is led to the inescapable conclusion that the State must devote a much larger proportion of its resources to industries. Thus, unlike in the State's five year plans, industry is accorded a higher priority in the present proposals. Out of the total outlay of Rs. 186 crores proposed here, industries would account for Rs. 81 crores. Further, out of Rs. 30 crores to be raised by the State Government from within the State, Rs. 18 crores are committed to industry. By the same token, the Committee felt that the State Government must assume the pivotal role in sparking the process of industrialisation of this region. The report has unequivocally stated that the State Government should provide the entrepreneurship. Owing to a constellation of economic, political, social and psychological circumstances, the functions of innovation, financing and management devolve on the shoulders of the State Government. The road to industrialisation is strewn with seemingly insuperable difficulties, but the inescapable role of the Government here is that of path-breaker.

The industrial structure of Kerala is dominated by traditional industries, most of which are on the decline. The Committee has therefore given in a high priority to their rehabilitation. However, a fresh beginning has to be made in the process of industrialisation by starting modern industries. The dearth of project reports on feasible industries is a major handicap standing in the way of availing institutional finance now available in large amounts on liberal terms. Therefore, the Committee has selected for immediate implementation a number of units in small, medium and large industry, for which project reports are readily available and recommended the initiation of immediate steps by the Government for the preparation of project reports.

The broad approach to the question of industrialisation, larger allocation to industries and higher degree of State participation, does represent a significant departure from the traditional approach in Kerala. The guidelines of policy in the limited context of employment can be dovetailed with the possible strategy for the fifth five year plan of the State.

The Committee also felt the urgent need to give special treatment to the employment problems of certain groups and areas in the State which are apt to be denied the fruits of over-all economic development. In view of their peculiar social and economic handicaps, the Committee has proposed certain measures for the benefit of special groups like Harijans, unemployed engineers, and technicians on the one hand and depressed areas like Malabar, Kuttanad, etc., on the other.

Another avenue of additional employment consists of modernizing the fishing industry. Kerala's unique endowment in respect of fisheries is widely acknowledged. But we have as yet touched only the fringe of this immense potentiality. A more systematic and determined effort in fishery development than hitherto attempted is called for. Construction of fishing harbours, building up of storage and processing facilities, developing a net work of transport and distribution channels and improving the living conditions of the fisher-folk are contemplated here.

The financial implications of the proposed outlay of Rs. 186 crores are also examined, especially its allocation among the State Government, the Central Government, financial institutions and the private sector. The basic philosophy underlying this report is that in accelerating development and generating greater employment opportunities, the people of Kerala must lift themselves up by their own bootstraps, so to say. However, the allocation pattern of the total outlay, viz., Rs. 30 crores to be provided by the State Government, Rs. 30 crores by the Central Government, Rs. 102 crores by financial institutions and Rs. 24 crores by the private sector would give a different impression. The rationale of this pattern may be examined. In the first place, the financial resources of the State Government are extremely limited and sizeable revenue gaps have shown up in recent budgets. The scope for increased taxation is limited. For, under the existing Constitution the States are left with very few avenues of taxation. Kerala is one of the most heavily taxed States in the Indian Union. Naturally, the State Government have to lean heavily on the Central Government for tackling this problem. However, there are some indications that the Central Government are equally concerned with this problem and are likely to set apart a ,sizeable sum towards a crash programme of creating jobs. Further, as mentioned before, Kerala's share of Central investment has been disproportionately low. The same consideration weighed with the Committee in allocating Rs. 102 crores to the financial institutions. A number of financial institutions have recently sprung up to extend credit to various sectors on liberal terms. But even a perfunctory examination of the operation of these agencies indicates that these facilities have not been exploited by the State. Whether it be due to poor liaison and information gap or dearth of feasible and acceptable projects, or the absence of counterpart institutions in Kerala to utilise the funds provided by all-India institutions, the record of Kerala is lamentably poor. Here again, the State Government will have to play an active role in activising the promotional agencies and attracting larger amount of institutional finance.

The estimation of total employment generated by these schemes is indeed an arduous task. Some rough calculations indicate that these programmes are likely to provide direct and continuing employment to about 1.33 lakhs of persons. They also show that employment of about 4.5 lakhs of man-years will be created during the construction phase of the programme. In all these calculations, two facts regarding employment have been left out. First, most of these programmes will generate considerable indirect employment; it is too difficult to make any accurate estimate. Second, many programmes included here will also provide substantial relief to the underemployed, but this again defies exact quantification.

The specific recommendations of the Committee in the various sectors are given below:

(a) Agriculture.

In the field of agriculture, the main proposals include implementing minor irrigation programmes in all the ten districts, land development project in Malabar area, Kuttanad Development Scheme in Alleppey District and expansion of agricultural extension and research. The total outlay involved in these schemes will be Rs. 37 crores. The employment potential of minor irrigation projects is estimated at 101 lakh man days. The land development programme would involve 48 lakh man days in the first year, 24 lakh man days in the second and 28 lakh man days in the third year, besides seasonal employment for 40,000 persons for a three-month harvesting period. Substantial employment is inherent in the proposed Kuttanad Development Scheme also.

(b) Fisheries.

The main proposals comprise the construction of fishing harbours and appurtenant works at Neendakara, Azhikode, Beypore and Thalai, besides expanding other infra-structure such as transport and distribution net work. Total outlay proposed is Rs. 57.68 crores. This is expected to generate employment of the order of about 58,000 man years in the construction phase and continuing employment of over 39,000 men.

(c) Industry.

The schemes included here consist of rehabilitation of traditional industries like coir, cashew and tiles and establishment of 42 new projects in the field of small scale industries and 9 projects in the area of medium and large scale industries. Total outlay in the industrial sector adds up to Rs. 87 crores. The rehabilitation of traditional industries is designed to stabilise employment therein while large and medium industries newly set up, would create direct employment for 35,000 persons.

(d) Special Groups.

We have proposed the setting up of a Development Corporation for Harijans for their employment and economic uplift involving an outlay of Rs. 10 crores. In the case of unemployed engineers, technicians and post graduates also we have suggested certain schemes which will absorb large numbers of them.

(e) Finance.

The sources of finance for implementing the employment programme are the State and Central Governments, financial institutions and the private sector. The share of the State Government is Rs. 30 crores over the period of three years. For mobilising this sum, we have recommended increasing the rate of general sales tax from 3 to 4½ per cent, doubling of the basic tax on land in the case of holdings above two acres, introduction of a tax on land put to non-agricultural uses and public borrowing.

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CHAPTER I

NATURE AND MAGNITUDE OF UNEMPLOYMENT IN KERALA

1.1. *Introduction:*

Unemployment has always been one of the foremost problems of Kerala. Of late the problem has attained crisis proportions; it is so pressing that action on this front can wait no longer. Effective measures to combat the problem require sufficient data on the magnitude of unemployment and detailed knowledge of the age, sex, education and skill of the unemployed persons, their geographical distribution and mobility, etc. Information available at present on the above aspects is not adequate. A study in depth of the magnitude and dimensions of the problem should be undertaken as early as possible. However, action against unemployment cannot be postponed till the gaps in our knowledge are filled. In the present report we shall indicate certain steps that may be taken immediately to create further employment opportunities on the basis of available information, beyond those already envisaged in the Fourth Plan of Kerala.

Solution of unemployment obviously presupposes an understanding of the nature of the problem. Unemployment in an underdeveloped country is generally different from that occurring from time to time in an economically advanced country. "In contrast to the situation in advanced industial countries, the problem is one of underemployment rather than mass unemployment; it is primarily agricultural rather than industrial; the phenomenon is chronic rather than cyclical; and, moreover, the incidence of unemployment spreads widely over the bulk of the population instead of being concentrated among a relatively limited number of workers".[1]. The predominance of agriculture in these economies, characterised by seasonality in production, household enterprise and uneconomic size of holdings, accounts for widespread underemployment. Unemployment in such countries is chronic because of the lack of complementary resources such as capital, technical and entrepreneurial skill, etc., which reflect the backward and stagnant nature of their economies. Together with underemployment in traditional agriculture, there is also substantial degree of disguised unemployment. The existing institutional framework including household enterprise, joint family system and general absence of wage employment in the traditional sectors leads to the practice of work sharing. The pressure of population against limited job opportunities and relatively flexible factor proportions in the traditional sectors result in the employment of much larger numbers in such economic activities than would strictly be required.

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[1] **International Labour Office, Action Against Unemployment, Geneva, 1950, p. 127.**

Underemployment and disguised unemployment are the dominant forms of the employment situation in underdeveloped countries, but, after a stage the emergence of open unemployment is inevitable. The accentuation of underemployment, spread of education, break up of the joint family system, urbanisation, pressure of population and the resultant decline of land-labour ratio, etc., drive an increasing number of the labour force to seek employment, as exemplified by the swelling numbers on the live registers of the employment exchanges in our country.

1.2. *Genesis of the Problem of Unemployment and Underemployment:*

A rise in the rate of growth of population, steady decline in the size of the agricultural holdings, slow if not arrested growth of industries and lack of alternative employment opportunities, fall in investment, especially in the public sector during the three years of 'plan holiday' have all combined to aggravate the employment situation in India in recent years. In Kerala these forces have been in operation for a longer period and with greater intensity. Kerala has experienced a greater demographic pressure than the country as a whole; in the course of the present century the population of the State more than doubled itself. The decennial growth rate since 1941 in Kerala has been higher than the national average. Kerala has the highest density of population among the Indian States. Population pressure has worsened the land-labour ratio thus the cultivable land per capita has fallen to one-fifth of a hectare which works out to one-seventh of land per head one hundred years ago. Consequently, agricultural resources have been strained to the breaking point. Agriculture had accommodated an ever increasing number as cultivators and agricultural labourers. The proportion of the cultivators to total working population first increased from 35.2 per cent in 1901 to 41.39 per cent in 1911, slowly crept upto 41.77 in 1921, later decreased to 36.78 in 1951 and heavily fell in the course of the next decade to 20.92 per cent in 1961. Similarly the proportion of agricultural labourers has registered a decline, however small, say from 17.8 per cent to 17.4 per cent. Further, the proportion of these two categories of workers has fallen from 53.12 per cent to 38.30 per cent of all workers in the course of this century. At the same time, the pace of industrial development has been slow and halting. The secondary sector accommodated an additional labour force of 9 lakhs out of the total increase of about 28 lakhs workers during this period. Thus, the absorption of the primary and secondary sectors together could be a little over 11 lakhs, the bulk of the remaining working population spilled over to the residual tertiary sector. For instance, between 1921 and 1961 total workers in the tertiary sector—commerce, transport, storage and communications and other services—increased from 8.42 lakhs to 18.96 lakhs. As of 1961, this group accounted for 33.70 per cent of the total workers in the region's economy.[1] The bloated growth of the tertiary sector out of proportion with the growth of the primary and secondary sectors, or rather because of the stagnation of other sectors, has caused a high degree of underemployment here. The cropping pattern of Kerala has also contributed to substantial underemployment in agriculture. Perennial crops account for 47 per cent of the total cropped area in Kerala, as against 8 per cent for India as a whole; and labour requirements of perennial crops are admittedly smaller than that of field crops.[2] Professor K. S. L. Panikkar points out that underemployment is also present in the secondary sector, especially in coir, traditional industries such as handloom and cashew.[3] A more rapid spread of education in Kerala than in other States has brought out unemployment into the open, thereby making the problem more articulate and fraught with more serious consequences.

1.3. *Magnitude of the Problem.*

Comprehensive and up-to-date data on unemployment in Kerala are not available. It is difficult to build up accurate statistics of this phenomenon, for unemployment in a subsistence economy like ours does not lend itself to exact quantification. Be that as it may, a few attempts have been made in Kerala to obtain quantitative estimates of the magnitude of unemployment in the State.

It was estimated that, at the commencement of the second five year plan, there was a backlog of unemployment of the order of 2.4 lakhs and that new entrants to the labour force in the course of the second plan period comes to 3.5 lakhs. As against some 6 lakhs additional jobs required, the number of new jobs envisaged in the course of the second plan period was only 2 lakhs. At that rate the number of the jobless at the beginning of the third plan should be 4 lakhs.[4] According to a subsequent appraisal it was calculated that the legacy of the second plan was a backlog of 5 lakh unemployed.[5]

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[1] See, P. G. K. Panikar. The Tertiary Sector in Kerala, Labour and Industries Review, January 1964.

[2] K. S. L. Panikkar. Needed Research in the Economics of Employment in Kerala, Paper presented at the Seminar on Development of Kerala, Trivandrum, October 1970, mimeographed.

[3] Ibid.

[4] P. G. K. Panikar, Planning and Employment in Kerala. Labour and Industries Review, 1965.

[5] Government of Kerala--Third Five Year Plan 1961 p. 26.

A sample survey conducted by the Government of Kerala in 1962 showed that 7.60 lakhs of persons were unemployed in 1961.

The 1961 census shed some light on this problem. At the time of the last census, the proportion of workers to the total population in Kerala came to 33.31 per cent as against a national average of 42.98. Next to West Bengal, Kerala had the lowest worker participation rate. Thus, about 67 per cent of the total population in the State constituted non-workers. Total non-working population in Kerala according to 1961 Census, came to 112.7 lakhs. This reflects a very high dependency ratio in Kerala.

A comprehensive survey of employment and unemployment was undertaken by the Bureau of Economics and Statistics in 1965. Despite certain limitations in the concepts and definitions adopted by the Survey, the findings of the Survey still remain the only source of data for the analysis of the problem. However, before we proceed to present the main findings of the survey, we shall examine the main concepts and definitions and their implications.

In the Survey, "a person who was directly or indirectly occupied in gainful work on atleast one day during the reference week, however nominal the hours of work put in might be, was treated as employed. A person in the age group of 15 to 59, without any gainful employment during the reference week and either seeking or available for work was treated as unemployed". It can be seen that the definition of employed used in the survey is apt to overestimate employment and the same definition leads to an underestimation of unemployment. Since a person who reports to be employed, however nominally, in the reference week is considered employed, he is *ex-definitione,* excluded from the category of either seeking work or available for work.

Despite such a downward bias in the estimate of unemployment, the Survey yielded a high figure of unemployment. As per the results of the survey, the number of unemployed in Kerala came to 5.47 lakhs in 1965 out of an estimated population of 187.81 lakhs and a labour force of 60.15 lakhs. Thus, unemployed persons came to 9.1 per cent of the total labour force in 1965. Among the unemployed, 2.5 lakhs persons were reported as seeking work and the rest, 3 lakhs, not seeking but available for work.

1.4. *Other Dimensions of the Problem.*

It is also worth noting that of the total 5.5 lakhs persons unemployed, 2.5 lakhs are females. While unemployed males formed only 1.1 per cent of the male labour force, nearly 14 per cent of the female labour force was reported unemployed. Further, 1 lakh female unemployed, that is 40 per cent of them, were actually seeking employment. This aspect of the unemployment problem, its structural characteristic, deserves special mention as it is likely to differ from the all-India pattern. Policies for the solution of the problem of unemployment would have to consider this special aspect, and a general solution to create employment might fail to tackle this problem.

An examinaion of the age composition of the unemployed indicates that 65.3 per cent of them belong to the age group 15 to 24. This ratio is almost the same when the unemployed among the two sexes are considered separately. One implication of the age composition is that frustration of this crucial group is pregnant with explosive social and political consequences.

Another significant finding of the survey is that a large propertion of the unemployed have remained so far more than one year; about 2.78 lakhs out of the 5.47 lakhs unemployed belong to this category. That is to say, the phenomenon is chronic rather than cyclical or temporary.

The problem of educated unemployment has received considerable attention in Kerala. The Survey has shed much light on the educational composition of the unemployed. Of the 5.47 lakhs unemployed, more than one-fourth had education upto matriculation and above. Thus, the bulk of the unemployed are either illiterates or those whose educational attainments are below the level of matriculation. Illiterates constituted 17.88 per cent of the total; literates but with education below middle school level came to 38.61 per cent; those with middle school and above but non-matriculates worked out to 17.03 per cent; the above three groups, those with less than matriculation added upto 73.5 per cent. On the other hand, graduates and post-graduates together came to 7200 forming 1.32 per cent of the total unemployed. As of 1965, unemployed graduates in agriculture and engineering numbered 510 and diploma holders in engineering and technology totalled 5010. Thus, an overwhelming proportion of the unemployed had a low level of education although in certain categories of educated unemployed, such as diploma holders in technical subjects, unemployed constitute a high proportion of the total number of such persons. In other words the preponderant proportion of the unemployed lack the level of education and skill required for productive employment in most activities.

As is to be expected, the survey also showed that the incidence of unemployment is greater in urban areas. There are also considerable differences among the various districts in the State. The districts of Trivandrum, Trichur, Alleppey and Quilon reported unemployment rates of over 10 per cent of the labour force while for Cannanore District the figure is as low as 3.17 per cent.

The Survey also provides data on underemployment. Any definition of under employment involves the adoption of some arbitrary norms in terms of working hours. In the 1965 Survey, 42 hours of work per week was considered a normal work week. On this basis 25 per cent of the employed, or 13.78 lakhs persons, were estimated as underemployed. The proportion of underemployed is slightly higher among women, viz., 27 per cent. As for inter-district variation Alleppey and Quilon have recorded the highest levels and Kottayam has the lowest level of underemployment.

In brief, the 1965 survey revealed a comparatively high level of unemployment and underemployment. Presumably, the problem has aggravated since then. We shall attempt to obtain some estimates of the magnitude of unemployment at present in Kerala, however, imperfect this may be.

1.5. *Unemployment situation in Kerala since 1965*

The recent trends in unemployment cannot be accurately appraised as no comprehensive and systematic enquiry has been conducted since the 1965 survey. The only source of information available since that date to analyse the growth and the volume of unemployment consists of the number of live registrants on the Employment Exchanges. However, it is possible to derive some rough approximations of total unemployment from these data, if the relationship between live registrants and the total unemployed is known for the base year, and which may be assumed to remain roughly the same over a short period. However, the relationship may need certain adjustments before being applied to derive estimates of total unemployment. It may be presumed that a certain percentage of the registrants already have jobs and they generally register in order to move into better positions. According to the 1965 Survey, 18.6 per cent of the registrants in Kerala were actually employed at the time of that enquiry. Therefore, in estimating unemployment from the live register figures, due allowance has to be made for this practice. After this adjustment, the Employment Exchange multiplier is obtained by dividing the actual total unemployed as estimated in the 1965 enquiry by the number of actual unemployed registrants at the time of that enquiry. For the subsequent years, the adjusted number of live registrants (adjusted for the employed persons on the live register) have been multiplied by the Exchange multiplier to obtain the total number of unemployed. Admittedly, this is a crude procedure and it does not take into account the changes in the attitude of he unemployed to registration with the Employment Exchanges. If the popularity of the Exchanges increases and larger proportions of the unemployed begin registration with them, the multiplier will decline. On the other hand, if the Employment Exchanges succeed in providing only a few jobs, unemployed may consider registration with the Exchanges as a futile attempt in which case, the multiplier will have to be revised upwards. Information on these aspects are lacking in Kerala, and therefore, it is assumed that the ratio of live registrants to total unemployed has remained stable during the period 1965-70.

According to the 1965 survey, the actual unemployed registered with the exchanges formed 21 per cent of the total unemployed. The following figures give the number on the live register at the end of the first quarter of the year and the total unemployment estimated on the above basis.

(In lakhs)

Year	*Live Registrants*	*Total Unemployed*
1965	1.42	5.47
1968	1.79	6.83
1970	2.39	9.06

Though the above figures are based on rough estimates, the number of unemployed seems to have swelled by 3.6 lakhs during the five years 1965-70. The 1965 unemployment survey report has provided estimates of labour force for 1971 and 1976. The total labour force is estimated to be 60.15 lakhs in 1965, and the projected labour force would have roughly increased by 8.5 lakhs between 1965 and 1970. Of this increase, 3.6 lakhs represent the net addition to the total unemployed, the balance being 4.9 lakhs. A question arises whether employment has increased in Kerala by this number, viz., 4.9 lakhs, during 1965-70.

A major source of information on employment in Kerala relates to the periodical reports on employment in the organised sector. Such information is given separately for the public and private sectors. According to those figures, total employment in the organised sector has only increased by 24,000 between 1965 and 1970. In fact, this net increase is the result of a larger increase in Public sector employment combined with a decline in the private sector employment.

If the above figures represent the true picture of growth of employment in the State, the bulk of the 4.9 lakhs of new entrants into the labour force would probably have been accommodated mostly in the traditional sectors of the economy, like agriculture, commerce, other services, etc. It has already been pointed out that these are the sectors which accommodate the underemployed and the disguisedly unemployed. On the basis of a restricted definition of underemployment, the 1965 enquiry suggested that 13.78 lakhs of persons were underemployed. To this figure, at least

4 lakhs may be added of the new entrants between 1965-70, which brings the number of underemployed to 17.78 lakhs. This indicates that the percentage of underemployed probably remains the same, but, the percentage of unemployed has increased from a little over 9 per cent in 1965 to above 13 per cent in 1970. Given the nature of the economy and the special features of Kerala, this is not at all improbable.

Summary:

Though open unemployment is not a massive phenomenon in underdeveloped countries, it has assumed serious proportions in Kerala. According to the findings of the unemployment survey conducted in Kerala in 1965, open unemployment, came to 5.47 lakhs which formed 9.1 per cent of the labour force. Besides, the same survey estimated the number of underemployed as 13.78 lakhs of the employed population. Presumably, the problem of unemployment and underemployment has become more acute since 1965. Some estimates made on the basis of registration with the Employment Exchange indicate that open unemployment has probably risen to 9 lakhs in 1970. Between 1965 and 1970, 8.5 lakhs have been added to the labour force of which the addition to open unemployment on the basis of the above estimate works out to 3.6 lakhs of persons. Employment in the organised sector during this interval has increased only by 24,000. This again probably indicates that atleast 4 lakhs of the new entrants to the labour force have joined the ranks of the underemployed. These facts clearly bring out the gravity of the problem of unemployment and underemployment in Kerala and highlight the need for prompt action.

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CHAPTER II

BROAD APPROACH TO THE PROBLEM

> "It is better to employ people on digging holes and filling them up again, than not to employ them at all; those who are taken into useless employment will, by what they earn and spend, give useful employment to others. It is better to employ people, however the money for paying their wages is obtained than not to employ them at all; enforced idleness is a waste of real resources and a waste of lives, which can never be made good, and which cannot be defended on any financial ground".
>
> Lord Beveridge, Full Employment in a
> Free Society, p: 147.

2.1 We would fully agree with Lord Beveridge that it is better to employ people in digging holes and filling them than not to employ them at all. Needless to say, a poor State like Kerala cannot afford to dissipate its limited resources by employing people in such unproductive ventures. But, then, the fact of the matter is that we do not have to resort to such desperate remedies; on the contrary in an underdeveloped economy, there are a number of ways of employing labour which can lead to the creation of productive assets which, in turn, will remove the main impediments to the expansion of employment opportunities. For, by now it is a part of received doctrine that it is the lack of capital and other complementary resources, rather than the want of effective demand, that accounts for chronic unemployment and underemployment in backward countries. Our basic approach to the problem, then, is that its solution shall be sought within the frame-work of the overall development of the State. Economic development, of course, has a long time-horizon; in the meantime, the pressure of unemployment continues to build up, demanding our immediate attention. Therefore, while appreciating that a permanent and satisfactory solution to the problem lies in the economic development of this region, we have also got to think in terms of short-term measures to give some immediate relief.

Short-term measures.

2.2 In framing short-term proposals for interim relief to the problem we should bear in mind certain criteria.

(a) Obviously, there is no time to prepare elaborate feasibility studies and project reports, input-output relationships, investment-employment ratios, etc., and we have to go in for adhoc investments which have a high employment potential.

(b) Viewed from another angle, and partly because of the foregoing consideration of the time element, the projects should not entail the use of foreign exchange, obtaining licence or other sanctions from the Government of India, and the use of scarce inputs.

(c) Another consideration shall be that, as far as possible, the investments should lead to the creation of durable assets and result in capital formation, rise in productivity and real income, and continuing employment. This will ensure a reconciliation of the objectives of employment and growth as well as the dovetailing of the short-run and the long run.

(d) To the greatest extent possible, priority should be given to projects which have the maximum initial impact as well as subsequent multiplier effect.

(e) Finally, investment should be so distributed as to take into account the spatial distribution of unemployment.

2.3 In economically advanced countries, in addition to policies to maintain full employment, they have also adopted social measures like unemployment insurance which are directed towards replacement of atleast part of the wage loss which the worker suffers when thrown out of employment. It is by now recognised that "so long as unemployment continues to exist, modern civilized nations must accept responsibility for plans which ease the impact of unemployment on those who produce its goods and services"[1]. Unemployment insurance, as an effective method for discharging this social responsibility, has been developed in a large number of countries such as Australia, Austria, Belgium, Bulgaria, Canada, Czechoslavokia, Denmark, Finland, France, Greece, Italy, Luxemburge, Netherlands, New Zealand, Norway, Portugal, Sweden, Switzerland, United Kingdom and U.S.A.

2.4 Recently a scheme for unemployment relief was formulated in Kerala[2]. In terms of coverage, rate of benefit, duration of benefit etc., the proposals are quite modest. Thus, the number of unemployed to be covered by the scheme is placed at 4 lakhs as against an estimated total of 7.8 lakhs; an eligible unemployed person would receive 75 paise per day, if he resides in a Panchayat area and Re. 1 if he lives in a municipal area. Such meagre relief is not sufficient for one square meal a day. Even at this rate the total annual cost of providing relief for 4 lakh unemployed, one half the estimated total of about 8 lakhs, works out to Rs. 12 crores.

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[1] Action against Unemployment op. cit. p. 39.

[2] See, Economic Division, State Planning Board, A Comprehensive Scheme for Employment Creation and Unemployment Benefits, Mimeographed.

2.5 Unemployment insurance can be supported only by economies which have attained a high level of development, for, in their case the unemployed constitute only a small proportion of the total labour force; sufficient resources are built up over time through contribution of employers and employees; some idle capacity in the form of capital and other complementary resources generally exists so that increased spending by the recipients of relief leads to increased production; and unemployment is a cyclical phenomenon, and as far as any individual is concerned it is a temporary feature, so that the burden of relief on the society is apt to be generally small. But the position of Kerala, which is an underdeveloped region characterised by chronic unemployment and underemployment, is different. Moreover, the finances of the State Government cannot sustain an outlay of this nature and magnitude. On the other hand, if the Government could raise such a sum of Rs. 12 crores or so this, when invested in productive sectors, would generate employment and income of a permanent nature. The root cause of unemployment here is economic backwardness and its solution must be found through outlays which will result in capital formation and growth. Distribution of largess to the unemployed multitude in the form of doles will add to total spending and, thereby, reduce the investible resources. It will enervate the economy without ennobling the recipients. Therefore, we shall endeavour to identify investment channels which will generate employment opportunities in the short run and at the same time promote economic development of the State which in turn will sustain higher levels of employment in the long run.

2.6 The proposals may be of the following broad categories:—

(a) Steps to reduce unemployment and underemployment in the primary sector comprising agriculture, fishing, etc.

(b) Measures to arrest the incidence and growth of unemployment in the secondary sector due to recession in the traditional industries like coir, cashew, etc.

(c) A crash programme in the industrial sector, selecting projects which are at an advanced stage of processing and which have high employment potential.

(d) Programmes aimed at improving employment and incomes of the disguisedly unemployed of the tertiary sector including trade and services; and

(e) Projects for relieving unemployment among the educated classes, especially those with technical qualification, like engineering and medical graduates.

Long term solution.

2.7 As stated earlier the primary sector, especially agriculture, and the tertiary sector are already overcrowded. It follows, therefore, that we have to turn to the secondary sector—manufacturing industries—for enlarged employment opportunities. Rapid industrialisation alone holds any hope for making a perceptible dent on the worsening situation.

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CHAPTER III

EMPLOYMENT IN AGRICULTURE

3.1 *State of Agriculture in Kerala.*

As far as employment is concerned, the agricultural sector in the State had reached the saturation point long ago. Per capita cultivable land had steadily fallen over the years. There is little scope for extensive cultivation, a little over 86 percent of the total cultivable land has already been brought under the plough. The intensity of cropping in Kerala is fairly high. Nearly 40 per cent of the area under seasonal crops and 50 per cent of the area under paddy are sown more than once and over some area three crops are raised.[1] Moreover, a high proportion of the cultivated area in the State is under perennial crops which seriously limits the scope for multiple cropping. In the light of the above, it can be seen that this sector cannot offer much additional direct employment in agricultural production. On the contrary, as noted earlier, the proportion of workers engaged in this sector has fallen heavily during the last two or three decades.

This does not mean that there is no scope at all for employing more labour in agriculture. By and large, agriculture in Kerala as in other parts of the country, continues to be tradition-bound, despite the green revolution. It leans heavily on the monsoon; gross area under irrigation from all sources came to only 19 per cent of the total cropped area at the end of the Third Plan period.[2] Other items of infrastructure such as power, transport, storage, processing facilities, research, extension and supporting services are all under developed and woefully inadequate. A recent study conducted by the Bureau of Economics and Statistics has brought out that only about one fourth of the cultivators had adopted one or more of the improved agricultural practices. The green revolution has remained a tiny oasis in a vast desert of traditional cultivation practices. "The typical small farmer seems to remain outside the main stream of modernisation"[3].

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1. Government of Kerala, Seminar on Fourth Five Year Plan, Paper 2, Agricultural Development, 1964, pp. 2-3.

2. Ibid p. 3.

3. Evaluation Division, State Planning Board, Extent of adoption of improved Agricultural Practices, An Evaluation Study, 1969, Mimeographed, p. 47.

Modernization of agriculture in the State involves substantial expansion of the infrastructure. Soil conservation and water management (flood and salinity control, irrigation, building, etc.) have to be undertaken in a big way. Building up of the infrastructure will provide employment to quite a few persons.

3.2. *Soil Conservation.*

Kerala's geography and topography, climate and rainfall render the area extremely vulnerable to soil erosion. On account of the unfavourable man-land ratio, the bulk of the arable land has not only been over cropped, but grass lands have been over grazed and trees and forests have been cut down beyond safe limits. The torrential rains occurring in the high ranges lead to water logging, erosion and gullying. The topography of the State aggravates the problem of erosion. Further more than half the coastline of the State is subject to serious sea erosion. As a result of all these, a sizable chunk of the arable land is vulnerable to soil erosion hazards. "This progressive impoverishment, if permitted to continue unchecked, eventually reduces the fertile area of farm land considerably. Thus, soil erosion constitutes a land problem of enormous importance not only for individual farmers but also for the entire society"[1]. In the light of the gravity of the situation, soil conservation measures such as contour cultivation, contour bunding, terracing, etc., have to be undertaken on a large scale. The total extent of the area requiring soil conservation measures in the State is estimated to be about 10 lakh acres. An elaborate programme of soil conservation involving substantial outlays has been under implementation in the State for over a decate and its progress seems to be assured. As such no additional outlay on this items is envisaged in this report.

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3.3 *Minor Irrigation.*

The scope for extension of irrigation in Kerala seems to be immense. Though Kerala is blessed with heavy rainfall, the precipitation is confined to a few months. Only a small fraction of this rainfall is utilised for cultivation and the bulk of our water resources is wasted. As mentioned earlier, only 19 percent of the cropped area receives the benefit of irrigation—a paradox of poverty in the midst of plenty. A network of irrigation schemes can be designed which will absorb large numbers during the construction phase and give continuing employment and relieve underemployment in agriculture after the projects are commissioned. As to the type of irrigation projects preference should be given to minor irrigation schemes. They have definite advantages over major and medium works. The latter involve prohibitive costs. The minor schemes are less expensive and can be executed with local resources. They are quick maturing. The rate of utilisation and benefits are larger unlike major schemes where there is unused capacity for want of supplementary arrangements like feeding channels. In the case of Kerala there are certain additional factors in favour of minor irrigation. "Due to the undulating nature of the terrain and the plethora of hills and valleys big projects may not be able to serve about 30 to 40 percent of the arable land. Kerala abounds in small and fragmented holdings which are far better served by minor irrigation works. The State is criss crossed by hundreds of rivers and rivulets which provide the ideal backdrop for such projects. Small projects categorised as minor irrigation projects will provide cheaper and more efficient service to such regions. Further, the concentration of heavy rainfall in the limited monsoon period and nature of the soil in many regions facilitate the accretion of substantial quantities of water which can be drawn off conveniently only through minor irrigation works"[1]. Moreover, our experience in respect of major irrigation and hydroelectric projects, for example Kallada and Idikki, is not very happy; nearly all the major projects of the first and second plans spilled over into the Third Plan. For the foregoing reasons we shall give high priority to minor irrigation schemes in our proposals.

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[1] Evaluation Division, State Planning Board, Soil Conservation Programmes in Kerala, An Evaluation Study, 1970 p. 11.

Minor irrigation projects run into serious difficulties both in their implementation and their upkeep. The selection of particular projects is not done on the basis of objective assessment of cost-benefit relationship by experts, but is left to be decided by political pulls and pressures. Various procedural formalities involved in their execution such as non-objection-certificate, land acquisition, tender system, etc., cause unconscionable delay in their execution. The existing arrangement for repair and maintenance under which the projects are handed over to the concerned Panchayats leaves very much to be desired. We shall have to look into the question of institutional changes necessary to make the minor irrigation projects more useful and productive.

The minor irrigation schemes proposed here involve an estimated cost of Rs. 9.86 crores. The projects included are more or less evenly distributed in all the ten districts. The implementation of these schemes would create additional employment in the construction phase equivalent to 101 lakhs man days. An area of 1.20 lakh hectares will be benefited by these schemes, mostly in the form of stabilisation of irrigation facilities and an additional production of 68 thousand tonnes of paddy is anticipated. It is to be pointed out here that there will also be significant increases in continuing employment when irrigation facilities become available either in more intensive cultivation or in raising additional crops. This additional employment will be mostly in the form of reduction in underemployment.

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[1] Evaluation Division, State Planning Board Minor Irrigation works in Kerala, a Pilot Evaluation Study, 1970, p. 5.

3.4 *Land Reclamation.*

Land reclamation is another worthwhile venture. In a State like Kerala efforts to bring more land for cultivation and/or settlement of landless agricultural workers will be highly rewarding. In the four districts of Malabar region, there are extensive areas now lying unutilised because heavy investment is required for their reclamation, which the present owners are either unable or unwilling to undertake. These areas will have to be levelled with the use of bulldozers. It is learned that the Government of Kerala have already acquired a few bulldozers. These lands are reported to be suitable for cashew cultivation. It may also be possible to raise subsidiary crops like hill paddy, pineapple, ginger and tapioca during the first three years after planting cashew. The cost per acre for developing these lands is estimated to be Rs. 500 of which Rs. 200 will be required for ploughing and levelling. The aggregate cost for an estimated area of 40,000 acres works out to Rs. 2 crores. The implementation of the project would yield an output of 20,000 tonnes of cashewnuts, 16 to 20 thousand tonnes of paddy and substantial quantities of other subsidiary crops. The land development programme would involve 48 lakh mandays in the first year 24 lakh mandays in the second year and 28 lakh mandays in the third year, besides seasonal employment for 40,000 persons for a three month harvesting period.

In the Travancore-Cochin area also there is some scope for land reclamation. The exact extent of land that may be reclaimed from the backwaters and their implications have to be investigated.

3.5 *Kuttanad Development Scheme.*

Kuttanad, a water-logged region in Alleppey district, is one of the most unfortunate parts of Kerala. This lowlying area of 874 Sq. Km. is exposed to serious natural hazards like flood and salinity intrusion. The region receives heavy rainfall and the rivers Achencoil, Manimala, Meenachil and Pamba flow through Kuttanad into the Vembanad lake. For want of sufficient drainage, the area gets flooded during the monsoon season, causing untold hardship to the population. During summer, when water level in the rivers and backwaters falls, salt water encroaches through the Cochin Harbour. Nature has imposed a constraint on the cropping pattern; paddy and coconut are the principal crops. And owing to the compulsions of weather, in the major part of Kuttanad only a single crop of paddy is raised. Land suitable for human habitation is extremely limited and the clusters of

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households scattered all over the region are exposed to the risk of being submerged or washed away during rainy season. The same insecurity engulfs paddy, the principal crop of Kuttanad known to be the rice bowl of Kerala. Paddy is raised in lowlying fields. encircled by bunds which project the fields from the surrounding expanse of water in the rivers, canals, lagoon and backwaters. Often the crop lies several feet below the level of water in adjoining rivers and lakes. The ring bunds are improvised with clay, sand and feebly reinforced with coconut stems and other cuttings. The outer bunds, inherently infirm, are vulnerable to breaches through tidal action which nibble into them. Breaches of bunds are frequent, causing heavy losses to the ryots.

The Kuttanad Development Scheme was conceived by the Engineering Department in 1953-54 as a comprehensive plan to mitigate the severity of the above hardships and to bring about economic development of this region. Certain parts of the Scheme such as the Thottappally Spillway have been completed; some items for example, the salt water barrier at Thanneermukkam, are in progress; some schemes like the Alleppey-Changanacherry road are partially complete. However, the major problems of Kuttanad—the vulnerability of outer bunds surrounding the fields, irrigation, drainage, transportation, housing, water supply, etc.,—remain unresolved. A bunding scheme for Kuttanad, providing for permanent, non-submersible bunds has been under consideration of the Government. We propose that this idea be translated into reality in the immediate future.

Construction of permanent bunds will help to stabilise the first paddy crop and to raise a second crop in 51,000 hectares. The additional output is estimated at 1.5 lakh tonnes of rice per year. The outer bunds can be planted with 3 lakhs coconut seedlings which can yield an income of Rs. 1 crore or so per annum. Moreover, large number of landless agricultural labour families can be housed on these bunds. Additional employment of 125 lakhs mandays per year for three years in construction work and job equivalent of 40,000 manyears on a continuing basis for raising a second crop will be generated by the scheme.

If the region is to derive full benefits from the above investments under the Kuttanad Development Scheme, there should be an integrated land development programme including irrigation, drainage, consolidation of holdings, etc. A comprehensive programme should also provide for more and better housing facilities, drinking water and other amenities. The estimated cost of permanent bunds including the outlay on planting of coconut seedlings on them comes to Rs. 21 crores; the figure would be much larger if the scope of the development programme is widened.

The implementation of the above programme is beset with many problems, the most important of which is that of financing the project. We may here distinguish between schemes which benefit the area as a whole and those which benefit only certain sections of the population. For instance, improvement of transport facilities, water supply, flood and salt water control yield social benefit, and the cost should be borne by the Government. But construction of permanent bunds, improvement of irrigation and drainage yield private benefit and the cost of such projects must be borne by the owners of land holdings of this region. The State may initially provide the finance directly or underwrite the finance supplied by agencies like the Refinance Corporation. But the ultimate burden must be borne by the beneficiaries who should recompense the State over a long period in convenient instalments.

An alternative solution may be that the present owners of land in Kuttanad region pay the Government of Kerala the cost of bunds and other appurtenant works in terms of land. A certain proportion of their land holdings may be transferred to the Government in return for the improvement introduced by the Government. The cultivators, as mentioned before, would be able to raise two crops instead of one as at present; they would be freed from the risks and uncertainty to their crops posed at present by flood, salinity invasion, lack of irrigation and drainage, etc. As a matter of fact, their gross cropped area would, in effect, be doubled when the scheme is completed. In return for such benefits, it is not unfair to expect them to bear a portion of the cost. The Government may take a certain portion of the land and distribute it among the landless. The present owners of land may be given compensation at the rates provided for in the Kerala Land Reforms Act. The compensation paid to present owners may be recovered from those prospective farmers on whom ownership will be conferred. On a rough calculation, some 16,000 acres of land would be the surplus land above the ceiling prescribed in the recent Land Reforms Act. Approximately the same area could be released if beneficiaris of the proposed Kuttanad Development Scheme are made to part with one-tenth of their present possessions. The total area so released, about 32,000 acres, can be distributed among the landless where some 30,000 families can be settled at the rate of one acre per family.

3.6 *Agricultural Extension and Research:*

Building up of research, extension and other supporting services are as important as the development of favourable physical environment through expansion of the infrastructure. After all, only one fourth of the cultivators in the State are reported to have adopted improved agricultural practices. Much remains to be done in the areas of soil analysis, pest control, water management, agricultural research and extension. All the principal crops in Kerala such as paddy, coconut, plantain, are affected by pests. There seems to be considerable scope for using the services of educated persons in the production, distribution and application of pesticides. Agricultural research is still in its infancy in Kerala. Instead of allowing educated persons to remain unemployed, this talent should be used in research on various agricultural problems relating to soil, fertilizer, crop rotation. development of new strains, etc. Similarly, the know-how in modern scientific agriculture and fruits of research have to be carried to a wider strata of the farm population through effective extension work. True, extension work has not made a great impact on the majority of cultivators. This may probably be due to the fact that available extension service is below par and is spread thinly over the entire area. It may certainly be worthwhile to expand the number of extension personnel and improve their expertise through intensive training. There are at present a few unemployed agricultural graduates and their number is likely to increase several fold in the years to come. Expansion of agricultural extension can absorb them.

A fresh beginning may be made in agricultural education and extension by employing agricultural graduates to teach courses in agricultural sciences and modern agricultural practices in some selected high schools in the State. This has a number of advantages. First, traditionally the teachers command considerable respect in the villages and villagers often go to the teachers for advice. Secondly, the children of the farmers may be utilised to narrow the information gap between the farmer and the researcher. Thirdly, every high school where the agricultural graduates work can also become the nucleus for a soil testing laboratory and the spread of literature connected with extension work which will help to reduce the costs involved in building up infra-structure for such an organisation. These schemes would be able to provide employment for the bulk of the presently unemployed agricultural graduates.

Summary.

In sum, soil conservation, irrigation, research, extension, land reclamation and land development, plant protection are the tasks which may be undertaken in the agricultural sector which will at once create substantial employment opportunities and add to capital formation and improvement of agricultural productivity.

EMPLOYMENT IN AGRICULTURE

Item	*Outlay proposed (Rs. crores)*	*Employment generated*	
		Continuing Employment	*Construction phase Employment (Man year)*
(1)	(2)	(3)	(4)
1. Minor Irrigation	10.00	..	40,500
2. Land Development	7.00	10,000	40,000
3. Kuttanad Development Scheme	20.00	45,000	1,50,000
Total	37.00	55,000	2,30,500

CHAPTER IV

EMPLOYMENT IN FISHING INDUSTRY

4.1 *Introduction.*

Kerala's unique endowment in respect of fisheries is by now widely recognised. The State accounts for 40 per cent of the total marine fish landings and 85 per cent of the sea food exports of the country. Scattered along the coastline of 590 km. are 248 fishing villages with a total fishing population of 3 lakhs. The fishing crafts comprise 25,000 country crafts and 1500 mechanised boats; there are also a few medium and largesized trawlers operating in this region. In 1969-70 total production in the State came to 3.85 lakhs tonnes. Yet we have touched only the fringe of this immense potentiality.

A more systematic and determined effort in fishery development than hitherto attempted is called for. Development of fisheries involving modernization of fishing vessels and accessories, expansion of processing, storage, transport and distribution facilities, utilisation of wastes and by-products, etc., are bound to generate substantial employment opportunities. Modernization of fishing and allied activities has an added advantage. Under conventional fishing only certain sections of the population enter the industry; modernization will help to break down the barriers and overcome the aversion of non-traditional groups. The diversion of superfluous numbers in other sectors into fishing industry is necessary to relieve the pressure on the limited employment opportunities in those sectors. Further, additional employment in fishing envisaged under the fourth plan is about 24,000 while new entrants to the labour force from within the fishermen community is estimated at 14,000 only. Thus it looks as though the industry will face labour shortage even if the modest schemes in the fourth plan are implemented. It is gratifying to note that the inflow of labour from other communities has already set in.

Modernization process entails the introduction of mechanised boats and trawlers, construction of fishing harbours, building up of storage and processing facilities, developing a net work of transport and distribution channels and, last but not least, improving the living conditions of fisher-folk. Evidently, the expansion of the aforementioned facilities is pregnant with great employment possibilities

Fishing harbours are an important pre-requisite of modernising the industry. While country crafts can land anywhere on the beach mechanised vessels require adequate landing and berthing facilities in comparatively calm and sheltered waters. Equally important is the development of certain amenities which will ensure proper preservation and storage of the catch-ice plants, freezing plants, storage facilities, etc. The limitations of traditional country boats are too well known; further development of fishing industry in Kerala hinges upon the expansion of the fleet of modern vessels. The existing apparatus of fishing industry in Kerala is lamentably inadequate. The construction of fishing harbours, ice plants and freezers, storage, processing and distribution facilities, building of fishing boats, setting up repair yards are some of the immediate tasks facing the development of fishing industry. These also contain great employment potential.

Kerala's advantage in fishing is unique. However, the development of this sector should be based on a well conceived plan prepared by a team of competent experts. In the meantime, we shall indicate a few projects which will generate additional employment in the short run. The projects that may be taken up immediately are given below.

4.2 *Expansion of the Infrastructure.*

Construction of fishing harbours, freezing and cold storage plants, storage facilities; development of a net work of distribution channels, building up of boat and fishing net repair yards are some of the facilities that may be given immediate attention.

Messrs Indo-Pol was requested to prepare feasibility studies on the development of six fishing ports in Kerala. They recommended the development of Neendakara, Ponnani, Beypore and Azhikal as cargo-cum-fishing harbours and Azhikode and Thalai as fishing harbours. For preparing detaild project reports, the State Government have sanctioned the setting up of a Harbour Engineering Wing under the State Port Office. This wing has already submitted a project report for Neendakara. Similar reports for other centres are awaited.

4.3 *Neendakara Project.*

Neendakara, about 10 k.m. norh of Quilon, lies in the estuary of the Astamudi lake where it joins the Arabian sea. The sea around Neendakara has extensive fishing grounds for prawns, mackerel and sardine. The bottom condition is sandy and muddy providing enormous facilities for trawling. The seat of the Indo-Norwegian Project, Neendakara, has become the centre of mechanised fishing in Kerala, next in importance only to Cochin.

The Project Report prepared by the Port Authorities for the development of a fishing harbour at Neendakara involves a total outlay of Rs. 7.62 crores in the public sector. Of this a sum of Rs. 1.96 crores is set apart for the construction of the fishing harbour and the rest for the construction of buildings, processing plants, ancillary industries, purchase of fishing vessels, etc. Capacity in the production of ice, freezing capacity and storage facility, will be considerably stepped up. There is also a proposal to set up a plant for canning sardines and tuna as well as a factory for utilising low quality fish and wastes.

It is envisaged that the harbour will have an ultimate capacity for a fleet of 300 mechanised boats and 60 cutters. When the project is completed and the full fleet of fishing vessels are in operation, total landing is expected to reach 80,000 tonnes.

The employment potential of Neendakara project is estimated at 7600 man years by construction of the harbour and various plants; some 4000 jobs by way of operational staff, such as port staff, fisheries staff, fishing crew, repairmen, transshipment from vessel to wharf, transport, freezing, canning, packing, etc., an 2040 jobs for the distribution of fishmeal, fillets, fresh fish etc.

4.4 *Azhikode.*

Azhikode, about 30 km. to the north of Cochin, has excellent potentialities for developing into a flourishing fishing harbour. The need for a fishing harbour at Azhikode is all the greater at present as Cochin, with increasing concentration of naval and fishing vessels, has become over crowded. Messrs Indo-Pol has recommended the construction of a fishing harbour here. Though detailed project report is not ready, according to available indications, the project is expected to involve an outlay of Rs. 8 crores in the public sector by way of construction of the harbour, freezing plant, storage facilities and purchase of fishing vessels and accessories. The harbour will cater to a fleet of 300 mechanised boats and 60 steel trawlers. The annual catch is expected to go up to 80,000 tonnes. An expansion of fish landings of the above order would necessitate corresponding increase in the production of ice, freezing capacity, storage facilities, etc.

The employment potential of the Azhikode project is estimated at 8000 man years in construction phase and 9500 jobs by way of operating staff, storage and processing, transport, distribution, etc.

4.5 *Beypore.*

Beypore near Calicut is another important centre which is being developed into a fishing harbour. Between 1961-62 and 1970-71 the

Government have invested Rs. 9.48 lakhs at this port. But at present Beypore provides facilities for only small mechanised boats. The Harbour Engineering Wing is presently preparing a project report for developing Beypore into a cargo-cum-fishing harbour.

The development project entails an outlay of Rs. 17.36 crores in the public sector. The harbour would cater to a fleet of 300 mechanised boats and 80 steel trawlers. The annual catch is expected to rise to 104,000 tonnes. As a consequence, facilities for freezing, storage, processing, transport and distribution will need to be augmented in proportion.

The above investment is expected to generate additional employment for 17360 man years in construction and for 14000 persons in allied activities.

4.6 *Thalai.*

Thalai near Tellicherry is another centre with considerable potentiality for development into a fishing harbour. Protected water is available here over a wide area and the sea bottom is ideally suited for trawling. Mechanised boats have made their appearance on this coast.

The Harbour Engineering Wing has recommended an investment of Rs. 8.70 crores for harbour construction and provision of necessary amenities in the public sector. When completed the harbour will cater to a fleet of 300 mechanised boats and 60 steel trawlers. The total annual catch is expected to reach 80000 tonnes. The shore facilities would include ice plants, storage, freezing, etc.

The construction phase of the harbour and common facilities would create jobs for 8700. The aggregate recurring employment operation of the fishing vessels and plants may be estimated at about 9500 per annum.

4.7 *Private Sector.*

While Government will have to bear the full cost of construction of fishing harbours and common facilities, the public sector investment in the fishery development programmes will be supplemented by investment in the private sector. It is expected that the total private sector investment in all the four projects towards the cost of trawlers, mechanised boats and processing facilities would amount to Rs. 16 crores.

The construction phase on this account would create about 16000 jobs.

Summary.

The development of four fishing harbours at Azhikode, Beypore, Neendakara and Thalai involves an aggregate outlay of Rs. 57.68 crores by way of construction of harbours, ice plants, freezers, storage facilities, processing plants, purchase of fishing vessels, provision of repair facilities, etc.

An investment of about Rs. 58 crores would generate about 58000 non-recurring jobs and over 39000 recurring jobs yielding a comparatively high ratio of labour to capital investment. Needless to say these are very crude estimates but indicate the rough order of magnitude. Development of fisheries, besides providing employment to large numbers, would also contribute to an improvement of the diet of the local population suffering from acute malnutrition, an increase in foreign exchange resources of the country and general economic development of this region.

The above are only some ad hoc projects. The design of a full fledged plan for the development of Kerala's fisheries may be entrusted to a team of fishing experts, economists, statisticians and specialists in other kindred fields.

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APPENDIX

Employment in Fishing Industry

Item	*Neendakara*	*Azhikode*	*Beypore*	*Thalai*	*Total*
(1)	(2)	(3)	(4)	(5)	(6)
I. Outlay proposed (Rs. Crore)					
(i) Public Sector	7.62	8.00	17.36	8.70	41.68
(ii) Private Sector	2.50	4.00	5.50	4.00	16.00
Total	10.12	12.00	22.86	12.70	57.68
II. Fishing fleet proposed					
(i) Trawlers	60	60	80	60	260
(ii) Mechanised boats	300	300	300	300	1200
III. Fish catches (in '000 tonnes)					
(i) Trawlers	36	36	54	36	162
(ii) Mechanised boats	27	27	27	27	108
Sub Total	63	63	81	63	270
(iii) Engine-less country crafts	17	17	23	17	74
Total	80	80	104	80	344
IV. Employment (in '000)					
(i) Construction phase—public sector	7.62	8.00	17.36	8.70	41.68
(ii) Construction phase—private sector	2.50	4.00	5.50	4.00	16.00
Total	10.12	12.00	22.86	12.70	57.68
(iii) Recurring employment per annum	6.40	9.50	14.00	9.50	39.40

CHAPTER V

EMPLOYMENT IN INDUSTRIES

5.1 *Introduction*:

By any standard, Kerala remains an industrially backward region. This is true not only in an absolute sense, but also in comparison with some other States in India.

The industrial sector absorbs only a small proportion of the labour force. Thus, as per 1961 Census, employment in the secondary sector came to 10.88 lakhs. Of this nearly 83 per cent was in the small scale and cottage industries sector. Workers employed in the organised industrial sector would be about 1.7 lakhs in 1961 or about 17 per cent of the total industrial employment. No significant increase seems to have occurred in industrial employment in subsequent years. As of 1967 employment in registered factories was only 2.02 lakhs and by 31st December 1968 it crept up to 2.04 lakhs. In all likelihood, total employment in factories at present would be between 2.1 lakhs and 2.2 lakhs. Thus over the last decade, 1960-70, employment generated in organised industry would be of the order of about 50,000 while the labour force would have increased by about 15 lakhs.

The reason for this tardy growth of industrial employment is not far to seek. The State's five year plans have accorded low priority to industrial development. Thus, industrial investment in the first three plans together came to only Rs. 22.5 crores out of the total outlay of Rs. 298.6 crores. While paying lip service to the neglect of industries in Kerala's planning, no deliberate departure is discernible even in the fourth plan, the outlay being only Rs. 22 crores out of a total outlay of Rs. 258.4 crores. Whether this is the outcome of certain constraints imposed by Central Planning in this country or the result of local decision making, the implication of such a course is clearly reflected in the employment situation in general and that in the industrial sector in particular.

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5.2 *Need for a new strategy*:

An examination of Kerala's five year plans, thus reveals that there was no determined effort for the rapid industrialisation of Kerala. The plan allocation provided for a disproportionately large share to agriculture and social services. Given the erstwhile process of planning and the determination of priorities, it is hardly surprising that the State's five year plans could allocate only a meagre sum for industrialisation and industries were relegated to the status of a residual claimant. On the other hand, since neither the State Government nor the people of Kerala have requisite power to influence the allocation of Central projects, the share of Kerala has turned out to be a trickle. Further, even some of the industrial projects of the Centre firmly earmarked for Kerala were later shifted to other more influential States or were put in cold storage. Thus Kerala's share of Central industrial projects came to only Rs. 68.3 crores out of a total of Rs. 2450 crores during 1951-68. Of the total proposed outlay Rs. 3150 crores proposed in large scale industries by the Central Government, Kerala is allotted just near Rs. 50 crores. Therefore, a continuation of the present 'strategy' needs to be radically altered. Taking into account the magnitude of the unemployment problem in the State and also of the failure of the plan strategy followed so far to create sufficient number of jobs, it seems that a deliberate and radical departure in the allocation pattern is called for. The new strategy demands that from now on we give top priority to industrial investment by committing the largest possible proportion of the State's resources to industrial projects.

The impact of a heavy dose of investment in industries, a "big push" on this front, is obvious. In general, the beneficial effects of industrial urban development are too well known: it will speed up the modernisation, of agriculture itself by toning up the factor markets, increasing the supply of modern inputs, and revolutionising the attitude and value system of the farm population brought into contact with modern industry. In the case of Kerala with large population, scarcity of cultivable land, and wide-spread unemployment and under-employment in agriculture, the need for accelerating industrialisation cannot be over emphasised. Investment in industries will lead to formation of more productive capital which will generate continuous and steady employment as well as higher income, savings and reinvestible surplus. Such saving as originate in the industrial urban sector lend themselves to more facile mobilisation. It is also generally acknowledged that the agricultural sector in Kerala is undertaxed compared to the non-agricultural sector. In other words, relative to the quantum of investment which the Government have undertaken for the benefit of agriculture, the contribution of this sector to the general revenues has been disproportionately meagre. Alternatively, while the income originating in the agricultural sector of Kerala in 1967-68 came to Rs. 311 crores the total direct tax incidence, i.e., agricultural income tax and land revenue, borne by the sector came to only Rs. 5 crores.

In brief, substantial plan outlay by the State in sectors like agriculture or social services has not led to the creation of reinvestible surplus which could be mobilised by fiscal instruments or financial intermediaries. On the other hand, a substantial break-through in the industrial field, apart from creating higher income and better employment, will also open up greater possibilities of raising larger tax revenues. Last but not least, is the fact that the bulk of the educated unemployed seek jobs outside the rural sector and it would be clearly wasteful to employ them in the rural sector, except in industries and industry-oriented enterprises such as construction, operation and maintenance of modern agricultural implements, production and distribution of fertilizers, and plant protection materials, etc.

5.3 *The Role of the State*:

There is a strong case in Kerala for the State Government underwriting fully the industrialisation programme. As stated above, under the existing circumstances, the proportion of Central schemes which will be located in Kerala is apt to be very low. In the second place, for a number of reasons, social, economic, psychological and political, Kerala has failed to attract private entrepreneurship in the field of industry. There is no reason to believe that there will be a change in their attitude in the near future. Discussion by the members of this Committee with persons in financial and industrial circles confirm the view that Kerala is severely handicapped by the lack of an enterpreneurial group capable of utilising even the existing facilities provided by the Government and financial institutions. Given these facts—the failure of Kerala to attract massive industrial investment either by Central Government or by private business—the only course left is for the State Government to assume the role of the industrial entrepreneur.

The development of industries on the initiative of the State Government may eventually overcome the inertia of private entrepreneurs. The resulting external economics will lower the initial cost of investment for private industry. Large and medium industries in the public sector will stimulate the development of a number of ancillary industries which could be relegated to the private sector. All this will help to revive confidence and development of a proper climate for industrial development.

True, the performance of the public sector industrial enterprises in Kerala is not commendable. Certain fundamental changes in organisation have to be experimented with. But the issues involved deserve a closer scrutiny which we shall attempt in the final report.

5.4 *Employment in Traditional Industries*:

Traditional industries like Coir, Cashew, Handloom and tiles account for a sizeable proportion of employment in the industrial sector of Kerala. These industries are highly labour intensive in nature and utilise only low levels of technology in their production processes. Besides, these industries employ a significant proportion of female labour which combined with low levels of productivity have resulted in low wage rates. Attempts have been made for quite some time by the State and Central Governments to modernise these industries but due to certain structural characteristics of these industries, they are finding it difficult even to maintain their current levels of production and employment. In view of this situation, expansion of employment along traditional levels in these industries is almost ruled out. On the other hand, if steps are not taken immediately to stabilise and modernise these industries, the chances are that employment in this sector may contract and thus aggravate the unemployment situation.

COIR INDUSTRY

The coir industry employs about 3 1/2 lakhs of persons and earns foreign exchange to the tune of Rs. 15 crores annually. Most of the activities relating to the manufacture of coir fibre and coir products are carried out at the household level and largely by females. It is also known that there is considerable unemployment in the industry as over 50 per cent of coir workers are available for some other work. The Coir Board Survey of 1950 indicated that on the basis of eight hours of work per day, there was an excess of workers to the extent of 51 per cent, 25 per cent and 50 per cent in hand-spinning, wheel-spinning and manufacturing respectively.

The industry is highly export-oriented, but the bulk of the exports, 70 per cent of the toal, is the low value-added coir yarn. The exports of manufactured products of coir have been increasing rather slowly; also in importing countries, coir yarn and coir products are substituted by the products of synthetic fibres such as nylon yarn at an increasing rate. Under these circumstances, the industry's future seems very much dependent on product diversification and the penetration into new markets including the domestic markets.

It seems that there is considerable demand for mattress and bristle fibre in foreign markets and the Coir Board has taken the initiative for setting up some units for the production of these items. They are expected to start functioning before the end of the Fourth Five Year Plan. A new use for coir fibre has been discovered in the rubberised coir products. Rubberised coir has already found an outlet in automobile seat cushioning, foam mattresses, furniture industry, etc. Rubberised coir products can also be developed for insulating materials in the refrigeration and electrical industries and for packaging materials for the transport of fragile products like eggs., glassware, china etc. For some of these products markets can be found even in foreign countries. Since coir and rubber are both available in Kerala a diversification of the industry along these lines is highly desirable.

We understand that two units have already been established to manufacture rubberised coir products. One unit, at Cannanore, is supported by KSIDC. Another unit at Cochin, which possesses machinery imported from Germany, has not started operations.

Another product which has recently become popular is the carnatic pile carpet. However, this line, needs much research and product improvement. If the fibre can be softened by chemical methods and dyeing could be done in soft pastel shades with floral and other designs, the finished product may be able to compete with lower-priced woollen and cotton carpets.

In order to open up the possibilities for product diversification in the industry, two more units may be started under the auspices of the State Government to manufacture the above products. It is true that product diversification requires considerable research not only in technological problems but also on the acceptability of these products in the market. The technological problems connected with product diversification can be entrusted to the National coir Training and Design Centre located at Alleppey. This Centre may need some strengthening to carry out these tasks. An outside agency may be employed to conduct a market study for these new products. Both for the establishment of new units and for research, a total sum of Rs. 25 lakhs will be sufficient.

The State Government has already prepared a plan costing Rs. 15 crores for the re-organisation of the industry. It envisages the setting up of pilot project areas for coir in the different coir producing centres. The plans envisages the setting up of about 600 coir co-operative societies in these centres so that most of the workers can be brought into the co-operative fold. It is expected that nearly 2 lakhs of workers will be benefited by this scheme. Though this scheme does not lead to additional employment creation in the industry those workers who come under the scheme will be assured of fuller employment.

CASHEW INDUSTRY

The problems of the cashew industry are somewhat different from those faced by the coir industry. Cashew commands a high income elasticity and thus the marketing problem does not arise in this case. However, the organisational and employment structures are not significantly divergent from those of the coir industry. But, there is an added problem in the industry since it is dependent on imported raw nuts to the extent of 60 to 70 per cent. Besides low wage rates, the industry is often subject to irregular employment due to this dependency on imported nuts. In the short-run, there is an immediate need to assure a steady supply of nuts to the industry and thus regularise the pattern of employment.

In the long-run, however, the industry can be put on a firmer basis only if domestic supply of raw nuts can be increased. We have already recommended that land reclaimed in Malabar areas can be planted with cashew trees

There is considerable scope to develop new products based on the by-products of this industry. It seems that experiments conducted at the Industrial Testing Laboratory, Trivandrum, on the brown skin covering the cashew kernel have shown that it consists of a condensed type of tannin and 45 to 50 percent of this could be extracted with water. There is a shortage of tanning material in the country and wattle-bark, which is used for this purpose, is imported at a value of Rs. 1 crore annually. A factory for the extraction of tannin located in the cashew industry area of Quilon will be able to process about 3000 tonnes of cashew skin and will produce tannin valued at Rs. 15 lakhs annually. Similarly, cashew shell oil has found a number of industrial uses and this product is not fully developed. About Rs. 2 crores worth of shell oil is exported to the U.S.A. It is estimated that about 17,000 tonnes of cashew oil could be recovered if all the units engage in oil extraction at the roasting stage. A cashew shell oil processing factory to produce 2,500 tonnes of cashew oil per year will need an investment of Rs. 30 to 35 lakhs and will provide employment to about 300 persons.

Cashew apple is not only a good source of vitamin 'C' but the juice can also be a source for manufacturing high quality alcoholic beverages. Cashew cider with low percentage of alcohol content can be a popular drink and a cheap and good substitute for beer. Higher cycles of distillation may enable the manufacture of high quality liquor which may find a market even abroad.

The Kerala Government's interest in the prosperity of this industry is apparent from its decision to set up a public sector corporation called the 'Kerala Cashew Corporation' with Quilon as Headquarters. The authorised capital of the corporation is Rs. 50 lakhs. The main objectives of the Corporation are the purchase, processing and sale of cashew nuts and the by-products and the raising of cashew plantations. The import of rawnuts has been now entrusted with the State Trading Corporation of India. There are serious complaints that the State Trading Corporation is not always able to take into account the interest of producers and imports have become often haphazard and irregular leading to closure of factories and consequent unemployment. Further, the profit margin on the imported raw nuts is not available fo re-investment in Kerala as it goes to swell the returns of the State Trading Corporation. For the development of this industry on a sound basis, the following proposals are made:

1. In view of the above situation, the Kerala Cashew Corporation should be given the complete monopoly for the import of raw nuts. Afterall, 80 per cent of the cashew factories are located in Kerala. The profits arising out of the imports can be utilised for the further development of the industry.

2. The proposal to develop cashew plantations on newly developed land in Malabar should be undertaken by the Cashew Corporation. The income from the sale of raw nuts when these plantations mature will provide further resources for the Corporation.

3. The Cashew Corporation should not dissipate its resources by starting factories purely for the processing of raw nuts. The manufacture of tannin, the processing of cashew shell liquid and the extraction of cashew apple and its processing should be undertaken by the Corporation.

A provision of about Rs. 50 lakhs may enable the Corporation to start an integrated industry for the manufacture of tannin, the extraction of shell oil and the processing of cashew apples.

TILE INDUSTRY

The tile industry is concentrated around Quilon, Feroke, Trichur and Alwaye. There are 230 tile factories in the State providing employment to about 15,000 workers. More than fifty per cent of these factories are located in Trichur District. The industry is facing a difficult task since both internal and external demand have declined. The industry used to export substantial proportion of its output into countries like Ceylon, Burma, Malaya, etc. However, all these countries have developed their own tile industry; besides, exports to other States in India have also considerably declined.

The tile industry may be stabilised if its products are linked to the development of low-cost housing schemes in India. To meet this situation, the industry will have to deversify production and start the manufacture of allied items like salt-glazed pipes, chemical stoneware, hollow bricks, facing bricks etc. For this purpose, a common research and development organisation with the support of the Government and the industry has to be established. In this connection, technical advice may be sought from the National Building Research Organisation.

5.5 *Programmes in industry.*

We have noted that traditional industries offer little scope for the expansion of employment. Therefore, bulk of the investment in this sector will have to be in new small, medium and large scale industries.

Obviously, the first task in any industrialisation programme is identifying suitable industries. It is often pointed out by financial institutions operating in this region that lack of viable project reports is the main stumbling block in the way of implementing the new liberalised credit scheme. Despite the fact that a number of promotional agencies like the Kerala Financial Corporation, Kerala State Industrial Development Corporation, Small Industries Service Institute and Kerala Small Scale Industries Corporation have been functioning for quite some time, it is a frequent complaint that sufficient number of feasible projects have not emanated either from the public or private sector. The preparation of project reports is a technical job involving considerable time, expense and expertise. However, the Committee was fortunate to have a few projects prepared by agencies like the Department of Industry of the State Government, Small Industries Service Institute, the K. S. I. D. C., etc. Some of these projects appear to be at an advanced stage of processing and ready for immediate implementation. These can be taken up immediately.

We give below a list of large, medium and small scale industries. It contains 42 projects in the field of Small Scale Industry a part of which relates to the expansion of existing units. Industries covered comprise chemicals pharmaceuticals, paper products, light engineering, furniture, and products based on rubber. The total investment involved is Rs. 317 lakhs. Nine projects in the area of medium and large scale industries are now available. These projects include glass, transistors and semi-conductors, magnetic tape, audioparts, watches, etc., and involve an investment of about Rs. 950 lakhs. Total employment available in these projects is estimated at 6500. But this takes into account only direct employment, and leaves out indirect employment by way of construction, transport and allied activities which may be substantial in the initial stages.

Admittedly, such a large investment does not make a significant and immediate dent on unemployment here. At the same time, investment of this type is warranted by its possible impact on employment in future. Further in an industriallly backward region, setting up of a few units which will serve as the case for future industrial expansion is necessary, although their employment potential may be low. As a matter of fact the industrial expansion of some States which have made more rapid strides in recent years than Kerala is largely due to the fact that heavy investment in basic industries had taken place there in the early years of planning.

5.6 *Banks as Promotional Agencies.*

The Committee appointed by the Reserve Bank (October, 1970) to review special credit schemes of banks with particular reference to the employment potential has estimated that about 3 million jobs can be created by all commercial banks in the next five years, besides substantial indirect employment if each branch of a bank entertains in a year about 50 proposals for assistance from the unemployed.

With 767 bank offices in Kerala it would be possible to ensure the financing of about 40,000 proposals whose employment potential may be estimated at 3 lakhs.

5.7 *Rural Industries Project*

We have in the Rural Industries Project an eminently useful organisation and machinery for stimulating the development of rural industries; the mode of operation evolved by it also has proved fruitful. The Rural Industries Project (Kozhikode) should be encouraged and assisted to realise its aspiration of extending its operations to three more Community Development Blocks. In case the lukewarm attitude of the Government of India continues to impede this legitimate expansion, the State Government may examine the feasibility of meeting the cost in this regard. Measures to tone up the working of the Alleppey Project also need to be launched with expedition.

5.8 *Small Industries*

The Kerala State Small Industries Corporation has not yet played the role of an entrepreneur, except in a very limited sense. The direct participation of Government in the starting and operation of small industries has not yet merited serious consideration. The Kerala Government seem to have a proposal to start one unit in each of the taluks and after the units have been put on their feet, these are to be handed over to the workers Co-operatives. The Kerala State Small Industries Corporation may be entrusted with this task.

5.9 *Other Industrial Possibilities*

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Besides the aforementioned projects, for which concrete proposals are readily available, there seems to be a *prima facie* case for exploring the possibilities in optical glass industry, telephone, ready made garments, mass production of low cost housing, titanium complex and modern printing presses. These are industries which seem to be specially suited for Kerala in view of the availability of educated and skilled labour. Admittedly, the value added in industries which employ highly skilled labour more intensively will be relatively high. Further, the products of such industries are compact and therefore their transport cost will be low thereby increasing their export potentialities.

But the total outlay on readily available projects listed below would not be sufficient to make the requisite impact on the situation. Therefore, we propose that a competent agency should be entrusted with the job of making a systematic survey of the industrial potentialities of the State, identifying suitable industries and preparing project reports in a form acceptable to the potential financiers.

The implementation of an ambitious industrialisation programme, as envisaged above with a higher degree of State participation than before will place onerous responsibilities on the Government. There is no gain saying the fact that the present administrative machinery is not equal to the task, and will need radical overhauling. The changes in organisational set up, attitudes and motivation of the personnel dealing with industry for undertaking this task are far-reaching. The full implications of the requisite changes have to be examined in great detail. Specific recommendations in this regard shall be put forward in the second part.

5.10 *Summary*

The industrial backwardness of Kerala compared to some States in the Indian Union arises from the lack of a determined industrialisation policy in the past five year plans. The share of industry in the total plan outlay by the States has been less than 10 per cent, while the Central Government investment in industries in Kerala has been meagre and less than 2 per cent of such investment for the whole of India. Due to economic, psychological and political factors, outside private entrepreneurship has been keeping away from investment in the State. On the other hand, local entrepreneurship, even to develop small-scale industry utilising the existing facilities provided by the State and Financial Institutions, is shy, if not non-existent. Under these circumstances, it is inevitable that the State Government should assume the role of entrepreneurship for the speedy industrialisation of the State.

A number of projects in small, medium and large industry have been included for immediate implementation. The investment in these projects will add upto Rs. 12 crores and will provide direct employment for about 6500 persons. Needless to say this is only a drop in the bucket. Given the magnitude and nature of unemployment, the low level of present industrial development and the high potentialities for rapid industrial growth of Kerala, much larger quantum of investment needs to be undertaken in this sector. Therefore, the above proposals represent only the beginning of the process of industrialisation of Kerala. However, the main bottle neck in initiating a massive industrial programme is the paucity of viable industrial projects. Under the circumstances the preparation of feasible project reports has to be given immediate attention. Since this is a job which entails considerable specialised skill, the task may be entrusted to a competent body. Project reports have to be prepared immediately for industries involving an investment of Rs. 54 crores which is allotted in the programme.

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LIST OF SMALL SCALE INDUSTRIAL UNITS PROPOSED

Sl.No. (1)	*Product(s) of manufacture* (2)	*Investment (Rs. lakhs)* (3)	*Employment potential* (4)	*Location* (5)	*Remarks* (6)
1	Precision Spare Parts	2.24	N.A.	Ernakulam	Expansion
2	Envelop of various sizes	2.00	13	Calicut	New Unit
3	Distillery	6.45	36	Pudukkad-Trichur	New Unit
4	Mechanised Tannery	39.20	214	Malappuram	Expansion
5	Pharmaceuticals and Fine Chemicals	3.00	44	Kallettumkara-Trichur	Expansion
6	Polythene Products	39.00	55	Chowghat-Trichur	Expansion
7	Cast Iron Specials, Rotary Oil Chucks, Rubber Rolling Machines etc.	2.00		Trivandrum	Expansion
8	Dairy industry	7.65	Benefit to 500 families	Neendakara-Quilon	Expansion
9	Fish farm	4.00	200	Neendakara-Quilon	Expansion
10	Ropes from Coir	11.00	Benefit to 1000 families	Chavara-Quilon	New Unit
11	Wooden toys and furniture	1.00		Nattakam-Kottayam	Expansion
12	Commercial Plywood, packing cases, etc.	1.50		Pallom-Kottayam	Expansion

13	Sandalwood Oil distillation	3.90	10	Pudiyangadi-Calicut	New Unit
14	Canned Pineapple	2.80	15 Full-time 100 Seasonally	Ernakulam Dist.	Expansion
15	8" Re-rolling Mill for Steel billets and scrap	24.88	44	Ernakulam	New Unit
16	Wire Nettings, Saw Blades	6.00	125	Thrikkakkara-Ernakulam Dist.	Expansion
17	Steel Re-rolling mill	18.00	250	Quilon	New Unit
18	Cashew Apple Wine etc.	9.97	43	Ernakulam	New Unit
19	Photographic paper	15.60	47	Ernakulam	New Unit
20	Sodium Silicate	1.20	9	Ernakulam	New Unit
21	Water-proof multi-wall paper sacks	28.75	150 (3 shifts)	Ernakulam	New Unit
22	Bicycle Parts	9.86	..	Alleppey	New Unit
23	Cisterns	5.00	175	Palghat	Expansion
24	Aluminium Sheets/Circles	1.72	27	Quilon	Expansion
25	Plywood	0.50	10	Kozhikode	New Unit
26	Ayurvedic Toilet Soap	2.14	19	Alwaye	do
27	Rubber Lining Units	5.00	51	Ernakulam	do.
28	Fisheries	8.00	150	Cochin	Expansion
29	A.A.C. and A.C.S.R. Conductors	9.50	75	Shertalai	New Unit
30	Rafia Bags	14.00	50	Shertalai	do.
31	Bicycle Tyre project	6.67	55	..	do.
32	Camel Back Project	3.78	14	..	do.
33	Rubber-covered Rollers and Tanks Lining Project	3.44	22	..	do.

Sl.No.	*Product(s) of manufacture*	*Investment (Rs. lakhs)*	*Employment potential*	*Location*	*Remarks*
(1)	(2)	(3)	(4)	(5)	(6)
34	Extended and Moulded goods for Automobile etc.	3.35	14	..	New Unit
35	Micro Cellular Soling Project	2.80	23	..	do.
36	Hard Rubber Goods Project	2.51	14	..	do.
37	Foam and Sponge Goods Project	2.37	10	..	do.
38	Bicycle Tube Project	2.33	29	..	do.
39	Moulded Goods Project I	1.43	14	..	do.
40	Eraser Project	1.00	7	..	do.
41	Moulded Goods Projects II	0.73	9	..	do.
42	Dipped Goods Project	0.60	6	..	do.

LIST OF MAJOR AND MEDIUM UNITS PROPOSED

	Articles of Manufacture	*Capacity*	*Location*	*Approximate cost of the Project*	*Estimated employment potential*
	(1)	(2)	(3)	(4)	(5)
1.	Glass Bottles (a)	12000 tonnes/Year	Alleppey	Rs. 130 lakhs	340
2.	Thermistors/Varisotors (b)	1 million Nos. Year	Exact location yet to be decided	Rs. 200 lakhs	860
3.	(i) Variable capacitors (PVC & air type)	0.6 million Nos. Year	do.	Rs. 50 lakhs	375
	(ii) Trimmers	5.0			
4.	Eddy Current Clutches (d)	4000 Nos./Year	Chalakudy	Rs. 50 lakhs	130

Note: (a) A Project Report has been prepared; a company under the name 'Excel Glasswa Ltd.' has been registered to implement the project. Arrangements are being made to import automatic glass forming machinery feedors etc.

(b) No foreign collaboration permitted. Arrangements are being made to implement the letter of intent. The employment potential shown includes that for manufacture of transistors, silicon rectifiers etc.

(c) Foreign collaboration is permitted only in the case of manufacture of variable capacitors. One of the officials of Kerala State Industrial Development Corporation Ltd. recently explored the possibility of securing foreign collaboration to implement the scheme.

(d) Eddy Current Clutches provide electronically controlled stepless adjustable speed variations and are suitable for application in the Textile Machine tool industries etc. A market survey report prepared by M/s Iboon (P) Ltd. indicate that there is a potential demand for about 15000 units. The project is proposed to be implemented jointly with M/s. Rakelite Product and Allied industries, Kallettumkara who have already arranged for land at Chalakudy. Foreign collaboration terms have been received from a Japanese firm and further discussion will be held with Government of India.

Articles of manufacture	*Capacity*	*Location*	*Approximate cost of the Project*	*Estimated employment potential*
(1)	(2)	(3)	(4)	(5)
5. Nickel Cadmium Cells	2 million Nos/Year	Exact location not yet decided	Rs. 50 lakhs	183
6. (i) Field Effect Transistors*	1.6 ,,	do.	Rs. 200 lakhs	860
(ii) Tunnel diodes	0.2 ,,			
(iii) Silicon controlled rectifiers	0.03 ,,			
7. (i) Microphones, ear phones etc.	1 lakh units/year	do.	Rs. 75 lakhs	414
(ii) 1.5 to 12 V miniature D.C. motors	0.5 lakh units/year			
(iii) Magnetic tapes 100 lakh meter length				
(iv) Magnetic recording, play back tapes	1 lakh Nos/year			
8. Watches	3 lakh Nos/year	do.	Rs. 120 lakhs	**715**

*The employment potential includes that for the manufacture of Thermistors/Varisotors for which letter of intent has been received.

The Scheme for manufacturing Television sets and accessories may be investigated in addition to the above.

CHAPTER VI

EMPLOYMENT OPPORTUNITIES FOR SPECIAL GROUPS

6.1 *Harijans*:

There are certain groups in the labour force who need special treatment in employment policy in view of certain peculiar social and economic factors. This is so because some of them are likely to be left outside the main stream of development, as for example is the case of Harijans. To deal with the problem of employment and general improvement of this class we propose the setting up of a Development Corporation for Harijans.

The Kerala Land Reforms (Amendment) Act of 1969 enjoins that 50% of the surplus land available will be earmarked for settlement of families of scheduled castes and tribes. For this scheme to be effective it would be necessary to link it with a programme for economic advancement of the class by expanding their employment opportunities and their income. A Development Corporation for Harijans may be constituted to undertake this task.

The activities of the Corporation will cover the following aspects:

1. Assignment of surplus land among deserving families.
2. Provision of housing facilities to the families
3. Economic uplift of the Harijans.

1. *Assignment of Surplus land*:

According to the Land Reforms Survey conducted in the State in 1966 the total surplus land available is about 115 thousand ordinary acres. This area might be considerably less now owing to sub division. However, on the basis of the ceiling returns received by the Land Board under the provisions of the Kerala Land Reforms (Amendment) Act of 1969 the total surplus land available is about 54 thousand ordinary acres. This is only a partial assessment as more returns are expected. The total area of surplus land would be roughly 60 thousand acres, of which 30 thousand acres will be available for assignment. At the rate of an acre per family, the total number of families that can be settled is 30 thousand.

2. *Housing*:

The Corporation will undertake construction of houses financed by its funds. The unskilled labour required for the construction will be contributed by the beneficiaries. The remaining part of the cost estimated at

Rs. 2,000 per house will be recovered from the beneficiaries in easy instalments. The construction of houses will be spread over a period of three years. The total expenditure on this item will be Rs. 6 crores.

3. *Economic Uplift of the Harijans*:

This part of the activity of the Corporation shall not be confined to the resettled Harijans but shall cover the entire Harijan Community in the State. However, priority will be given to the economic uplift of the resettled families in the sense that the scope of the scheme may be limited to them for the first three years.

The Corporation will take necessary measures to provide fuller employment to the members of the harijan families so as to raise their income and standard of living. This will be achieved mainly through organising productive ventures such as dairying and poultry keeping, horticulture and rural industries including household industries.

The Corporation will procure approved breeds of milch animals and poultry and distribute them to the families on hire purchase basis. Milch animals distributed will include cows, she-buffaloes and goats. Each household shall get atleast one milch animal and ten laying birds.

If this scheme is to operate successfully it should be followed up by support measures such as timely extension service, supply of scientific feeds, veterinary aid and proper arrangement for collection and marketing of the products. The marketing can be organised in such a way as to ensure prompt payment of dues to the Corporation.

Members of the participating families may also be given basic training in livestock management. At a later stage the Corporation itself can undertake breeding of chicks and dairy animals for distribution.

Suitable rural industries with comparatively low capital requirements will be organised in areas where large numbers of harijan families are settled. In other areas facilities will be provided to individual households for starting household industries. In this case also adequate arrangement shall be made for follow up services like extention and training, supply of raw materials and marketing of the products.

The above schemes for economic uplift of the families will cost about Rs. 1,000 per family or Rs. 3 crores for the 30 thousand families.

The programme will give fuller employment and considerable rise in income to 30 thousand harijan families in its first phase covering three years. About 3 persons per family will get additional employment and income. This means a bout a lakh of persons will get fuller employment by the programme. It will also provide employment to a fairly large number of veterinary surgeons, engineers and other technical personnel besides indirect employment in marketing and other services. The total cost of the programme will be Rs. 10 crores., which will cover the expenses of the Corporation and its staff as well.

The investment part of the funds required can be met from institutional finance. Financial aid can also be expected from national agencies like Small Industries Corporation, Khadi and Village Industries Commission, National Dairy Development Corporation, National Building Organisation, etc. The recurring expenditure can be met by diverting funds from Harijan Welfare Schemes of the State Government.

6.2 *Educated Unemployed*:

Another group which deserves special attention is the educated unemployed. As pointed out in Chapter I, the educated among the unemployed really constitutes a smaller proportion than is generally believed. For, the majority of the unemployed, about 75 per cent had education below matriculation level, and those who possessed graduate or post-graduate degrees added upto only a few thousands in the total of 5.47 lakhs of unemployed in 1965. However, since then, the number of unemployed persons with technical and post-graduate qualifications has increased considerably. Thus, according to one estimate, the number of technicians who are now unemployed is 31,000. This includes engineering degree and diploma holders and I.T.I. certificate holders. The number of post-graduates who are presently jobless has swelled to a few thousands; for example, in Trivandrum District alone, the number of post-graduates on the live register of exchanges has increased from 160 in 1966 to 1687 in 1969.

Evidently, unemployment among these highly educated persons is an indefensible waste of scarce resources and talents. On the one hand, the Government and the parents of these persons have expended sizable amounts in their education and training. On the other hand, their enforced idleness leads to the waste of their valuable skill. On both accounts, therefore, the social cost of unemployment of engineers, doctors, etc., is heavy which a poor State like Kerala can ill-afford.

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(*a*) *Engineers and other Technicians*:

Recently a number of suggestions have come from the Government side for promoting entrepreneurship and self-employment among technical personnel, particularly through liberal bank finance. But these new facilities have not been availed of in Kerala. The emergence of the Kerala State Engineering Technicians Industrial Co-operative Society (ENCOS) marks the beginning of a new era. The authorised capital of the Society is Rs. 51 lakhs. There are at present 600 members from all over the State and they have contributed nearly Rs. 5.20 lakhs. The Society has drawn up a programme to implement the following schemes immediately.

(1) Scooter manufacturing units at Trivandrum and Alleppey.

(2) Boat Building and General Engineering Workshops at Thrikkakkara.

(3) Foundry and General Engineering Workshop at Ottapalam; &

(4) A civil Construction Unit at Malappuram.

The Society proposes to expand its activities in all the Districts and the following schemes have been proposed:—

(1) Three foundry units including precision Foundry at Quilon, Ottapalam and Trichur:

(2) Manufacture of Domestic Electrical Appliances;

(3) Rubberised Fibre Factory;

(4) Setting up of Automobile Service and Repair shops and manufacture of automobile parts;

(5) Power Tiller Unit and Mini Cart;

(6) Steel Furniture Unit;

(7) General Engineering Unit and Small Tool Manufacturing Unit; and

(8) Pre-fabricated Housing Unit.

The Scooter manufacturing unit has already started production and its capacity is estimated to be 3000 when it sets into full steam. The total capital requirements of the above projects work out to about Rs. 265 lakhs. The Society expects to employ 3,000 technicians in the above projects. The Society expects to be able to raise Rs.140 lakhs out of the total requirements of Rs. 265 lakhs, and raise substantial proportion of the rest from financial institutions including banks. The Kerala Government have agreed in principle for share participation of 1:3. Therefore the provision of Rs. 1.2 crores is made for this purposes.

(*b*) *Post-graduates*:

As mentioned above, the number of unemployed post-graduates has already risen to a few thousands. But job opportunities open to this group are severely limited, and the price of employment has come to be higher than that of unemployment. Therefore, it is imperative that we take immediate steps to find some productive outlet for this hard earned training.

A useful avenue of employment for post-graduates is the production of books in Malayalam for use in college classes. Now that the switchover to Malayalam as the medium of instruction at the University level has become almost a fait accompli, there is a strong case for a crash programme in the production of literature in the regional language covering the various academic disciplines. For, while the existing world reservoir of knowledge is vast, the books in Malayalam in each of these disciplines are scarce. Nor is the rate of output of scientific and technical books in Malayalam proceeding at a satisfactory pace and, at this rate even with the best will and the most valiant effort, it could take several decades to make the now existing body of knowledge available in our language. In the meantime, the frontier of knowledge gets extended at an unprecedented speed and the current flow of books and journal articles in other languages progressively widens the gulf between the totality of human achievements in the world of knowledge and what is available in Malayalam. This is a typical case of our having to run ever faster to stay where we are. To maintain the academic standard, if not to improve it, and to catch up with the fast moving world of science and technology to stimulate original research, invention and innovation, our efforts in the production of books and other literature in the regional language have to be multiplied several fold.

In the light of the above we put forward the following proposal. A task force of 500 post-graduates in the various fields such as natural and physical sciences, engineering and technology, arts, social sciences and humanities may be set up. Post-graduate degree holders selected should be given suitable training and posted to work on the translation of standard treatises, journal articles, etc., as well as writing of new and original works to cater to the curriculum in various courses of study. Committees consisting of experts in various fields and languages will have to be organised to supervise their work, scrutinise the manuscripts, edit and publish them. The pressure on printing facilities will naturally increase and, as we have recommended earlier, new printing presses and ancillary industries will also have to be established.

The post-graduate degree holders assigned with this task may be appointed, to start with, on a contract basis with a fixed stipend. About 500 such persons can be appointed at the rate of Rs. 500 per mensem on the average and the annual outlay would work out to Rs. 30 lakhs, and the total for three years would come to about Rs. 1 crore.

The proposals does not involve elaborate project reports, large organisational problems, demand on foreign exchange or other scarce resources, letter of intent, licence or Central Government sanction. This is instant employment, as it were.

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CHAPTER VII

FINANCING THE EMPLOYMENT PROGRAMME

7.1. *Introduction*:

The generation of employment on the scale envisaged in the foregoing sections calls for substantial investment. The total outlay works out to Rs.186 crores of which Rs. 47 crores is in the Agricultural sector, Rs. 58 crores in Fisheries, Rs. 81 crores in Industries. The pattern of allocation according to sectors and sources of finance is as follows:—

TABLE

Employment Projects and Sources of Funds

(Rs. in crores)

	Sectoral allocation	*Source of Funds*			
		State	*Centre*	*Institutional agencies*	*Private sector*
I.	*Agriculture*:				
	(1) Kuttanad Development scheme	2	..	18	..
	(2) Minor Irrigation	2	..	8	..
	(3) Land Development	2	..	3	2
II.	*Development Corporation for Harijans*	3	..	7	..
III.	*Fisheries*	3	10	29	16
IV.	*Industry*:				
	(1) Traditional Industries	1	10	10	..
	(2) Large & medium Industries	14	10	21	5
	(3) Small Industries	3	..	6	1
	Total	30	30	102	24

In the above scheme, the State and Central Government are expected to provide Rs. 30 crores each and the institutional agencies Rs. 102 crores.

The balance of Rs. 24 crores is expected from the private sector. Though the direct contribution of the State Government is placed at only Rs. 30 crores out of a total of Rs. 186 crores, it should be noted that the State Government have to guarantee or underwrite a substantial proportion of the finance from institutional agencies budgetted in the above scheme.

7.2. *Sources of Funds* :

(a) *State Government*: Under the above scheme, the State Government is to raise a sum of Rs. 30 crores in the course of next three years, over and above the committed expenditure of the Government under the Fourth Plan. It is true that Kerala is one of the most heavily taxed States in India. For instance, the per capita tax in 1967-68 came to Rs. 106.44 in the urban sector and Rs. 12.65 in the rural sector, as against an average of Rs. 66.51 and Rs. 10.69 respectively for all States. Thus, it would look as though, there is not much scope for additional taxation in Kerala, as pointed out in the Taxation Enquiry Committee (Thavaraj) Report. Notwithstanding the above, in view of the need for finding an immediate relief to the unemployment problem and finding the requisite financial resources, as well as the paucity of non-tax revenue sources, the Committee is constrained to suggest further taxation measures. The tax proposals are suggested on the strict understanding that the proceeds of additional taxation will be earmarked specifically for the employment programme. Certainly, there will be resistance to the imposition of further tax burden. But the problem on hand is so grave and acute that it needs treatment on an emergency footing.

(i) *The case for a tax on employment*:

In a society where employment opportunities are limited and the number of job seekers is large and increasing, the employed constitutes a privileged class. Under the circumstances, the latter can legitimately be expected to make some sacrifice for the sake of providing means of livelihood to the unemployed. True, the employed are contributing their mite to the general revenue; but due to the seriousness of the employment problem and due to the limited sources of revenue to the State Government, a tax on employment strikes as a justifiable levy. If the State Government could introduce such a tax, even on a moderate rate, a significant amount can be raised for this purpose. For instance, allowing an exemption limit up to Rs. 2,000 per annum, a graduated tax (3 per cent on gross income exceeding Rs. 2,000 and rising to 15 per cent on income above Rs. 15,000) levied on all persons employed in the public and organised private sectors may yield as much as Rs. 3.00 crores per annum.

As there is some doubt regarding the competence of the State Government to impose this tax under the existing distribution of revenue between the Centre and the State, we have not included this tax in our present proposals. However, we strongly recommended that the issue may be examined by competent experts and if under the existing arrangement the State Government cannot levy this tax, the Central Government may be moved to bring, about the necessary legislation, not excluding an appropriate amendment to the constitution.

(ii) *General Sales tax.*—

The bulk of the State Revenue comes at present from commodity taxes. Nevertheless, there is still some scope for selective modifications of the rates of sales tax. At present, the general multi-point sales tax is levied at the rate of 3 per cent. Compared to the rates prevalent in most developed countries and in many developing countries, the rate in force in Kerala and neighbouring States is very low. Therefore, we propose that this rate be raised from 3 per cent to 4.5 per cent. Enhancement of the rate to 4.5 per cent can be expected to yield a net revenue of Rs. 20 crores over the next three years.

(iii) *Basic Land Tax.*—

Direct tax, in the agricultural sector by way of land revenue and agricultural income tax, as mentioned before brought in only Rs. 5 crores during 1967-68 as against a total income originating in this sector of Rs. 311 crores. Recent years have witnessed heavy investment by the Government in the agricultural sector. And it is generally accepted that farmer's income have registered a substantial rise. But agricultural sector continues to be undertaxed. Therefore, it is only fair that this section of the population makes large contribution to the investible resources of the Government. We, therefore, propose a doubling of the basic tax on land, from a paltry sum of Rs. 2 to Rs 4 per acre per year in respect of holdings over two acres. This will yield an additional revenue of Rs. 3 crores over the three year period.

(iv) *Tax on non agricultural lands.*—

Lands put to non-agricultural uses, particularly those located in growing towns, or in their vicinity appreciate in value considerably. The Kerala Non-agricultural Land Tax Bill, 1967, incorporated the provision regarding the levy of a higher tax on such lands in specified areas. We recommend that this tax also be adopted for the present purpose. The Corporations and Municipalities may be classified into four groups and rates of tax ranging from 1 paisa per sq. metre for residential land in class IV to 6 paise per sq. metre for land put to industrial use in category 1 be levied. This will yield an estimated revenue of about Rs. 2.5 crores over the three year period.

From the above three tax proposals the State Government will be able to raise about Rs. 25.5 crores towards the Rs. 30 crores, the State Government have to raise during the said period. This leaves a gap of Rs. 4.5 crores. If the State Government could enhance the rate of general sales tax from 3 to 5 per cent, instead of the 4.5 per cent we have recommended, the deficit would be fully covered. In case this is not feasible, this sum, viz., Rs. 4.5 crores, may be raised through Government borrowing. Of course, the borrowing programme of State Government has certain limitations imposed by the Central Government and Reserve Bank of India. There is, however a strong case for raising the ceiling on public borrowing in this context, since the collections are to be used for investment in employment oriented schemes rather than for covering the deficit on revenue account.

(b) *Central Government.—*

Out of Rs. 30 crores allocated to the Centre, a sum of Rs. 10 crores will be towards rehabilitation of traditional industries about which some firm commitments have already been made. Another Rs. 10 crores of Central assistance is towards fisheries development. It may be mentioned here that the Government of India have been harping on the theme of fisheries development and Kerala with its unique potentialities for this development should legitimately expect substantial assistance from the Centre.

(c) *Institutional Finance*

In recent years a number of institutional agencies for financing various enterprises, such as Agricultural Finance Corporation, the Industrial Development Bank of India, the Industrial Credit and Development Corporation, have sprung up. At the same time, liberalised credit is being extended by State Bank and other nationalised banks to industrial and other ventures. These institutions together command substantial resources. Some States in India have taken full advantage of the developments. Unfortunately Kerala has a poor record in this also. For example the assistance extended by the IDBI (loans, guarantee and underwriting) during six years of its operation has been less than 2 per cent of its total for all States. Against this back-ground, Rs. 102 crores targetted for these institutional agencies cannot be said to be too high.

The whole range of issues relating to institutional finance and the intricacies connected with their operations need careful examination which we propose to take up in Part II of the report.

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STUDY OF UNEMPLOYMENT IN KERALA

List of Minor Irrigation Works Proposed
General Abstract

Sl. No.	*Name of M. I. Division*	*Estimated cost*	*Area benefited acres*	*Additional Production Tonnes*	*Employment potential created mandays*
(1)	(2)	(3)	(4)	(5)	(6)
1	Trivandrum	14839455	13289	7298	1801900
2	Quilon	7290000	5680	3449	680500
3	Chengannur	12483790	13190	8700	954610
4	Kottayam	10253000	12320	8754	935700
5	Ernakulam	15884990	17218	13961	2131950
6	Trichur	7111700	12066	6026	540575
7	Palghat	6759900	13102	4466	634040
8	Malappuram	13030700	24006	11173	1610953
9	Calicut	2944000	3737	1523	166345
10	Cannanore	8041000	6046	2305	672580
	Total	98638535	120654	67655	10129153

List of Minor Irrigation Works Proposed

Sl. No.	*Name of work*	*Estimated cost*	*Area benefited (acres)*	*Agricultural Production tonnes*	*Employment potential created*
(1)	(2)	(3)	(4)	(5)	(6)
	PART I—NEW SCHEMES				
	I. M.I. DIVISION, TRIVANDRUM				
1	Improvements to Myloorkonam in Trivandrum Corporation	54000	37	19	9180
2	Improvements to Kaipaikonamkulam in Anchamada	442000	25	13	7140
3	Improvements to Avuthancode kulam in Anchamada village	16500	12	6	2805
4	Improvements to Pandarakonathukulam in Trivandrum Corporation	15000	7	4	2550
5	Improvements to Vellakottukulam in Trivandrum Corporation	32500	17	9	5525
6	Improvements to Nelloorkonathukulam in Trivandrum Corporation	13600	12	6	2295
7	Improvements to Kallattukulam in Trivandrum Corporation	28800	27	14	4930
8	Improvements to Chittattinkara yelah in Trivandrum Corporation	50800	30	15	8670
9	Improvements to Kunnathukonam tank in Anchamada Village	30000	25	13	5100

10	Improvements to the leading kal of Konathukulangarakulam in Anchamada village	20000	30	15	3400
11	Improvements to Pattom thodu from Choozhampala upto Marapalam	100000	99	50	17000
12	Improvements to the right bank canal of Iranimuttom dam	50000	198	100	8500
13	Improvements to Pattom thodu from Kolasserikonam upto Choozhampala temple in Chettivilakom Panchayat	100000	148	75	17000
14	Improvements to Vadasserikonam Choozhampala thodu (Kusavoorkal thodu) in Chettivilakom Panchayat	10000	10	5	1700
15	Improvements to the thodu from Irappukuzhi to Kunnathukulam in Chettivilakom Panchayat	25000	25	12	4250
16	Additional Improvements to Poovanveli chira in Chettivilakom Panchayat	20000	17	9	3400
17	Providing two walls and further Improvements to Uliyanattukulam in Chettivilakom Panchayat	25000	17	9	4260
18	Improvements to Vayamba chira in Ulloor Panchayat	21425	15	8	3665
19	Improvements to Chennottukonam tank in Ulloor Panchayat	13700	12	6	2295
20	Improvements to Kuzhikunnathu chira in Ulloor Panchayat	22000	30	15	3740
21	Improvements to Oruvathilchira in Ulloor Panchayat	14500	15	7	2465
22	Improvements to the leading kal of Puthukulam in Ulloor Panchayat	25000	25	12	4250
23	Improvements to Pyangachira in Kadakampally Panchayat	20000	20	12	3400
24	Improvements to Punnamkonam thodu in Vattiyoorkavu Panchayat	25000	25	12	4250

(1)	(2)	(3)	(4)	(5)	(6)
25	Improvements to Kulasekharam thodu in Vattiyoorkavu Panchayat	30000	20	10	5100
26	Improvements to Vengattukonamkulam in Vattiyoorkavu Panchayat	30000	30	15	5100
27	Improvements to Ayoorkonam kulam in Vattiyoorkavu Panchayat	25000	25	12	4250
28	Improvements to Maruthoor thodu in Sreekariyam Panchayat	30770	42	21	5270
29	Improvements to Kodiyoorkonam to Peroor thodu in Sreekariyam Panchayat	24300	37	19	4165
30	Improvements to Gurukulam thodu in Sreekariyam Panchayat	29400	20	15	5015
31	Constructing cross bar in Peroor thodu at Edathara in Sreekariyam Panchayat	30500	32	16	5185
32	Additional Improvements to Amayizhanchan thodu upto Puthumoola nada in Sreekariyam Panchayat	50000	99	50	8500
33	Constructing a cross bar at Madathil nada in Kazhakuttom Panchayat	30000	30	15	5100
34	Constructing a cross bar at Cheriyavila nada in Kazhakuttom Panchayat	27000	27	13	4590
35	Improvements to Sasthavattom Thettiar thodu in Kazhakuttom Panchayat	50000	49	25	8500
36	Improvements to Thettiyar thodu including constructing cross bar in Kazhakuttom Panchayat	100000	99	50	15200
37	Additional Improvements to Thachapally thodu in Pothencode Panchayat	50000	99	50	8500
38	Improvements to Thettiyar including constructing cross bar in Andoorkonam Panchayat	100000	148	75	17000

39	Improvements to Valia yelah thodu in Kadinamkulam Panchayat	100000	49	25	17000
40	Improvements to Mundakari yelah thodu in Kadinamkulam Panchayat	78000	193	30	9000
41	Improvements to Orange Poika in Chettivilakom Panchayat	33000	82	6	3800
42	Improvements to Madavana thodu upto Mamom river in Mangalapuram Panchayat	50000	99	50	8500
43	Improvements to Thettiar in Attippra Panchayat	10000	148	75	17000
44	Improvements to Narayanathukonathu kulam in Vembayam Panchayat	41000	42	21	6970
45	Improvements to Kodiparambil chira in Vembayam Panchayat	32000	25	12.5	5440
46	Improvements to Oorukonathu chira in Vembayam Panchayat	20000	20	10	3400
47	Improvements to Panachimoodu Madathil nada thodu in Vembayam Panchayat	40000	30	15	6800
48	Improvements to Meythodu Mandapam thodu in Vembayam Panchayat	20000	25	12.5	3400
49	Improvements to Perimkoor Karimkuttymoola thodu in Vembayam Panchayat	25000	22	11	4250
50	Improvements to thodu from Kaloorkonam Panachamoodu nada	35000	35	17.5	5950
51	Improvements to Sivankonam Konchira thodu in Vembayam Panchayat	15000	20	10	2550
52	Improvements to Thekkada Ovumbhagom thodu in Vembayam Panchayat	10000	15	7.5	1700
53	Improvements to Neythodu Karamkode thodu in Vembayam Panchayat	20000	25	12.5	3400
54	Improvements to Mannayam Kallikkad thodu in Aruvikkara Panchayat	20000	22	11	3400

(1)	(2)	(3)	(4)	(5)	(6)
55	Improvements to Kokkothamangalam yelah thodu in Vembayam Panchayat	30000	40	20	5100
56	Improvements to Mavoorkonam yelah thodu in Aruvikkara Panchayat	10000	7	4	1700
57	Improvements to Irumpa yelah thodu in Aruvikkara Panchayat	15000	20	10	2550
58	Improvements to Punnaman yelah thodu in Aruvikkara Panchayat	120000	20	10	2040
59	Improvements to Kurinchilakodu Kaliyammuzhi thodu in Aruvikkara Panchayat	79000	80	39	9000
60	Improvements to Perila thodu in Ward No. I of Nedumangad Panchayat	32000	37	19	5440
61	Improvements to Mannoorkonam thodu in Nedumangad Panchayat	40000	45	22.5	6800
62	Improvements to thodu from Cheruvallikonam to Vayada in Nedumangad Panchayat	55000	62	31	9350
63	Improvements to Kuvathur yelah thodu in Nedumangad Panchayat	30000	62	31	5100
64	Improvements to thodu from Kannunnikonam chira to Konchilnada in Nedumangad Panchayat	28000	40	20	4760
65	mprovements to Thiruveli Vattarathala thodu in Anad Panchayat	35000	32	16	5950
66	Improvements to Vattarathala thodu in Anad Panchayat	15000	12	6	2550
67	Improvements to Therthankara thodu in Anad Panchayat	18000	35	17	3060
68	Improvements to Panayamuttom yelah thodu in Anad Panchayat	20000	30	15	3400

69	Improvements to Chandramangala Westankara thodu in Anad Panchayat	10000	30	15	1700
70	Improvements to Chullimanur tholnada to Karimkada thodu in Anad Panchayat	10000	12	6	1700
71	Improvements to Kothakulangara Kizhakkethil nada thodu in Anad Panchayat	10000	12	6	1700
72	Improvements to Anad Society nada to Andoorkonam thodu in Anad Panchayat	10000	12	6	1700
73	Improvements to Meithengal to Ozhukupara thodu in Karakulam Panchayat	10000	22	11	1700
74	Improvements to thodu from Kaiyattukonam to Altharavattom in Karakulam Panchayat	20000	22	11	3400
75	Improvements to the thodu from Chempussery to Alayathazha in Karakulam Panchayat	16000	20	10	2720
76	Improvements to the thodu from Kodivettipara to Maruthankonam in Karakulam Panchayat	15000	20	10	2550
77	Improvements to Kumbil thodu and its tributaries Kuttichal Panchayat	1000000	524	315	110000
78	Improvements to Karode Vettiyam canal in Vilappil Panchayat	200000	143	73	30000
79	Providing Irrigation facilities to Thachancottu yela in Vithura Panchayat	80000	49	25	12000
80	Improvements to Vazhottukonam Mylottumoozhi thodu in Poovachal Panchayat	100000	70	35	15000
81	Improvements to Mangalackal Valiya thodu in Kattakada Panchayat	150000	99	50	22500
82	Improvements to Vadavoorkonam Moolayil Nadathodu in Marikil Panchayat	30000	20	10	4500
83	Improvements to Kunnathukal thodu in Kunnathukal Panchayat	150000	99	50	22500
84	Improvements to Koranamcode Elamthottam in Kunnathukal Panchayat	120000	80	40	18000

(1)	(2)	(3)	(4)	(5)	(6)
85	Improvements to Attur Veliyannur thodu in Ottasekharamangalam Panchayat	150000	99	50	22500
86	Improvements to Vazhichal thodu in Ottasekharamanglam Panchayat	150000	99	50	22500
87	Improvements to Kollayil nadu thodu in Kollayil Panchayat	300000	198	100	45000
88	Improvements to Sasthankantan Aruviyodu thodu in Vellarada Panchayat	200000	148	75	30000
89	Improvements to Kiliyoor thodu in Vellarada Panchayat	200000	158	80	30000
90	Improvements to Perumpazhuthoor Thekkekara thodu in Perumpzahuthoor Panchayat	120000	80	40	18000
91	Improvements to Maruthathoor thodu in Perumpazhuthoor Panchayat	400000	198	100	6000
92	Improvements to Venganoor thodu in Vizhinjam Panchayat	400000	346	175	60000
93	Improvements to Pallichal thodu in Pallichal Panchayat	150000	120	60	22500
94	Improvements to Manalikkulam in Vizhinjam Panchayat	30000	20	10	4500
95	Improvements to Kattachal kulam in Pallichal Panchayat	30000	20	10	4500
96	Improvements to Thenginpallikonathu kulam in Kalliyoor Panchayat	20000	15	7	3000
97	Improvements to Thannikuzhikulam in Pallichal Panchayat	30000	20	11	4500
98	Improvements to Kattachal kulam in Venganoor Panchayat	35000	25	13	4250

99	Improvements to Kunnathukonathu kulam in Kottukal village	40000	25	13	6000
100	Improvements to Parankikulam in Pallichal Panchayat	45000	30	15	6550
101	Improvements to Mannanvilakulam in Venganoor Panchayat	35000	25	12	5250
102	Improvements to Thalayil thodu in Athiyanoor Panchayat	100000	130	65	15000
103	Improvements to Madathilkonathu kulam in Kalliyoor Panchayat	35000	25	13	5250
104	Improvements to Athiyannoor thodu in Athiyannoor Panchayat	100000	67	34	15000
105	Improvements to Vayakal thodu in Vizhinjam Panchayat	30000	22	11	4500
106	Improvements to Kalliyoor thodu in Kalliyoor Panchayat	140000	97	49	21000
107	Improvements to Karupattichira and thodu from Moorikulam Karuppally	150000	110	55	22500
108	Improvements to Kannarukonathukulam in Kottukal Panchayat	32000	22	11	4800
109	Improvements to thodu from two sides of Edakonathu yelah in Balaramapuram Panchayat	60000	40	20	9000
110	Improvements to Mulloorthodu in Vizhinjam Panchayat	30000	22	11	4500
111	Improvements to Palachakonathukulam in Balaramapuram Panchayat	35000	25	12	5250
112	Improvements to Nedumkulam in Balaramapuram Panchayat	25000	45	19	3260
113	Improvements to Edakkathu thodu in Pallichal Panchayat	60000	40	20	9000
114	Improvements to thodu from Puthukulam in Venganoor Panchayat	75000	49	25	11250

(1)	(2)	(3)	(4)	(5)	(6)
115	Improvements to thodu leading from Poonkottukulam in Pallichal Panchayat	50000	35	17	7500
116	Improvements to Karalithodu in Kulathoor Valia thodu (5 Miles)	300000	395	200	50000
117	Improvements to thodu from Panankottukulam to Odathalakulam in Karode Panchayat (1 M.)	100000	25	12.5	15000
118	Improvements to Vandichira thodu from Vandichira to Neyyar river	500000	247	125	75000
119	Improvements to Valiyakulam in Chengal Panchayat	100000	49	25	15000
120	Ariyasserichira in Parassala Panchayat	100000	59	30	15000
121	Thodu from Azhakikulam to Chullanada in Chengal Panchayat	50000	25	12.5	7500
122	Karimanoorkulam in Parassala Panchayat	50000	20	10	7500
123	Puthukulam in Parassala Panchayat	50000	20	10	7500
124	Puthusserikulam in Parassala Panchayat	25000	25	12.5	3750
125	Thodu from Karumannoorkulam to Karali thodu in Parassala Panchayat	50000	30	15	7500
126	Thodu from Nedumankottukulam to Karali thodu in Parassala Panchayat	50000	30	15	7550
127	Kadamankulam in Chengal Panchayat	10000	10	7.5	1500
128	Venkulam in Kulathoor Panchayat	50000	30	15	7500
129	Kochukulam in Chengal Panchayat	25000	20	10	7500
130	Edakulam in Karode Panchayat	50000	25	12.5	7500
131	Improvements to Edasserikulam in Karode Panchayat	5000	25	12.5	7500
132	Improvements to Aruvalloor tank in Karode Panchayat	50000	25	12.5	7500

133	Kuttanadimkulam in Thiruppuram Panchayat	50000	25	12.5	7500
134	Odathelakulam in Karode Panchayat	50000	25	12.5	7500
135	Iyarayil tank in Parassala Panchchayat	100000	49	25	15000
136	Panamgottukulam in Karode Panchayat	50000	25	12.5	7500
137	Thodu from Kaithakulam in Karode Panchayat	25000	25	12.5	3750
138	Thatchoorkulam in Kulathoor Panchayat	25000	25	12.5	3750
139	Amachalkulam in Chengal Panchayat	20000	20	10	3000
140	Improvements to side thodu from Kottithalakonam tank to Kallamthatta in Manampoor Panchayat	15000	99	50	2600
141	Improvements to Kadamparakonam chira in Manampoor Panchayat	23000	30	15	3600
142	Improvements to Ottoor temple tanks in Manampoor Panchayat	56000	99	100	5250
143	Improvements to side thodu in Kavoor Yelah in Chemmaruthy Panchayat	10000	15	10	1050
144	R. D. Constructing retaining wall either side of Ayroor river in Survey No. 2004	60000	40	20	5200
145	Improvements to Mannana cross bar and protecting the sides in Chemmaruthy Panchayat	50000	35	20	4150
146	Improvements to side thodu in Karathala yelah in Cherunniyoor Panchayat	15000	30	15	2600
147	Improvements to Palachira yelah in Cherunniyoor Panchayat	20000	25	15	3100
148	Constructing cross bar near Kolangara Vathukkal in Cherunniyoor Panchayat	20000	20	10	3100
149	Improvements to Vettoor thodu 1st section in Vettoor Panchayat	40000	30	15	4150
150	Improvements to Vettoor thodu 2nd section in Vettoor Panchayat	75000	49	25	6250

(1)	(2)	(3)	(4)	(5)	(6)
151	Improvements to side thodu from Thodubayal canal to Nadayara in Kannampa Yelah in Varkala Panchayat	15000	20	10	2600
152	Improvements to tank in Keezhuvalam Village in Keezhuvalam Panchayat	65000	49	25	5250
153	Improvements to Valia Yelah in Keezhuvalam Panchayat	30000	49	15	3600
154	Improvements to Chandrathu yelah in Chirayinkil Panchayat	45000	30	15	4200
155	Improvements to Thottaliyam sluice and protecting the sides in Chirayinkil Panchayat	35000	49	25	3150
156	Additional Improvements to Pazhanchira in Melakadakkavoor in Chirayinkil Panchayat	65000	49	25	5250
157	Improvements to Mampallimadam tank in Kadakkavoor Panchayat	15000	15	8	2600
158	Improvements to Marthandam konam chira in Azhoor Panchayat	15000	17	10	2600
159	Improvements to thodu in Vaikom Panchayat	50000	25	15	4200
160	Improvements to Azhoor tank in Azhoor Panchayat	15000	15	8	2600
161	Improvements to Anakody Yelah thodu in Vamanapuram Panchayat	35000	40	20	3150
162	Improvements to Arymankonam thodu in Vamanapuram Panchayat	50000	49	26	4200
163	Improvements to Bharathanoor thodu in Kallara Panchayat	25000	25	12	2650
164	Improvements to Kanchinada thodu in Kallara Panchayat	30000	37	20	3150
165	Improvements to Elavattoor Kurupuzha thodu in Nanniyode Panchayat	25000	20	10	4000

166	Improvements to Pachayil thodu Nanniyode Panchayat	45000	49	25	4200
167	Improvements to side thodu in Panalvattom yelah in Elakamon Panchayat	15000	30	15	2600
168	Improvements to side thodu in Kadavangara yelah in Elakamon Panchayat	15000	15	7	2600
169	Improvements to Sankethan Yelah in Survey No. 788 in Elakamon Panchayat	40000	30	15	4150
170	Protecting the sides of Ayroor river in Sangethan yelah in Elakamon Panchayat	75000	99	50	6250
171	Improvements to thodu near Survey No. 3166 Ayroor village in Elakamon Panchayat	15000	25	15	2600
172	Improvements to Chandranalloor Yelah in Edava Panchayat	10000	10	5	1050
173	Improvements to Chilakettukonam right side thodu in Mudakkal Panchayat	15000	17	8	2600
174	Protecting the sides of Mamom river downstream of Karumoola dam in Mudakkal Panchayat	30000	60	30	3600
175	Constructing protecting retaining walls near Anupara bridge in Mudakkal Panchayat	30000	20	10	3600
176	Improvements to Alalloor yelah in Mudakkal Panchayat	30000	20	10	3600
177	Improvements to Ninamkonam thodu in Keezhuvalam Panchayat	10000	20	10	1050
178	Improvements to Payyannoorkonam thodu in Keezhuvalam Panchayat	10000	20	10	1050
179	Closing breaches upstream of Erappupalam (Kuttathi yelah) in Keezhuvalam Panchayat	75000	59	30	6250
180	Improvements to Melekolachall thodu in Peringamala Panchayat	30000	30	15	3600
181	Improvements to Manthuruthy chira thodu in Peringamala Panchayat	35000	59	30	3150

(1)	(2)	(3)	(4)	(4)	(6)
182	Improvements to Mudakkal thobu in Nellanad Panchayat	25000	35	17	2600
183	Improvements to Nellanad thodu in Nellanad Panchayat	25000	35	17	2600
184	Improvements to Kottaraveedu to Thycaudu thodu in Pullampara Panchayat	30000	25	12	3500
185	Improvements to Pullampara thodu in Pullampara Panchayat	20000	25	12	2600
186	Improvements to Thirunalloor konam and thodu in Manickal Panchayat	40000	35	17	3650
187	Improvements to Thycaud thodu in Manickal Panchayat	30000	25	12	3600
188	Improvements to Mannattukavu-Plakeezhu thodu in Manickal Panchayat	16000	20	10	2100
189	R.D. Closing breaches upstream and downstream of Velavoor bridge in Manickal Panchayat	100000	49	25	7300
190	Improvements to Kokkottukonam-Annum thodu in Manickal Panchayat	10000	15	7	1050
191	Improvements to Kadavanthalakkal in Manickal Panchayat	20000	25	12	3100
192	R. D. closing breaches in Thycaud thodu in Manickal Panchayat	30000	40	20	3600
193	Improvements to Koduvazhannoor thodu in Pulimath Panchayat	20000	49	25	2600
194	Improvements to Karettu chira in Pulimath Panchayat	25000	30	15	2600
195	Improvements to Pallickal thodu in Madavoor Panchayat	15000	30	15	2100

196	Improvements to Thalakulam in Edavelikonam in Madavoor Panchayat	36000	40	20	3150
197	Improvements to Padinjattu yelah in Madavoor Panchayat	25000	30	15	2600
198	Improvements to Kilimanoor thodu in Kilimanoor Panchayat	90000	99	50	6300
199	Improvements to Karimpalikonam chira in Kilimanoor Panchayat	24000	25	12	2600
200	Improvements to Nagaroor thodu in Nagaroor Panchayat	20000	30	15	2100
201	Constructing cross bar at Thekkumthodu in Nagaroor Panchayat	20000	20	10	2100
202	Additional improvements to Ezharamoozhi chira in Pazhayakunnummel Panchayat	40000	59	30	3650
203	R. D. improvements to Pappalathodu in Pazhayakunnummel Panchayat	30000	20	10	3600
204	Constructing Cross bar in Thevalakattuvathukkal in Karavaram Panchayat	34000	35	17	3150
205	Improvements to Vanchiyoor-Kattaparamba thodu in Karavaram Panchayat	32000	30	15	3600
206	Constructing cross bar and protective works to Chawarathodu yelah in Navaikulam Panchayat	22000	30	15	2650
207	Improvements to Konduman yelah in Navaikulam Panchayat	20000	30	15	2600
208	Improvements to Kottiyottu yelah in Attingal Municipality	30000	30	15	3600
209	Improvements to thodu at Kurichayil yelah in Attingal Municipality	30000	30	15	3600
	Total—Part I	11795795	10332	5202	1674505

(1)	(2)	(3)	(4)	(5)	(6)
	PART II—BUDGETTED ITEMS DURING 1970-71				
1	Irrigation facilities to Iranimuttom-Nilamel and Muttathara yelah II stage	195850	148	75	33150
2	Improvements to Amayizhanjan thodu from Puthramoolanada to Ulloor bridge in Ulloor Panchayat	50000	198	100	8500
3	Deepening Anathazhachira and providing inlets in Andoorkonam Panchayat	198850	494	250	33745
4	Improvements to Dams in Mamom river and protecting sides	500000	494	500	12000
5	Reclamation of Vellayani kayal	2098960	1623	1171	40000
	Total—Part II	3043660	2957	2096	127395
	Grand total for Trivandrum Division	14839455	13289	7298	1801900

M.I. DIVISION, QUILON

PART I—NEW SCHEMES

(1)	(2)	(3)	(4)	(5)	(6)
1	Improvements to Pavithreswaram and Nedumchalil Elas in Pavithreswaram Panchayat	400000	350	90	37000
2	West Kallada Scheme—Converting single crop to double crop fields extension	600000	950	490	30000
3	Reclamation of Panamana Vattakkayal in Karunagappally Panchayat	900000	500	160	45000

4	Improvements to Chrikkadavu chira and improvements to thodu in Kareepra Panchayat	325000	150	40	13000
5	Improvements to Kundumonkulam in Adichanalloor Panchayat	175000	108.64	95	35000
	Total—Part I	2400000	2059	875	160000

PART II—BUDGETTED ITEM 1970-71

1	Mannady comprehensive scheme	410000	420	305	31000
2	Reclamation of Pazehaya—Ekkalpuram in Pattakadavu	400000	180	180	50000
3	Providing irrigation facilities to Perinad Ela	500000	267	107	60000
4	Improvements to Valakom Thodu—2nd Section from Kumbikode bridge to Ithikara river	200000	100	50	14000
5	Providing Irrigationl and Drainage facilities to the Elas on the sides of thodu from Angadical south to Chandanappally bridge in Kodumon Panchayat	400000	366	200	24000
6	Improvements to Kottakkayal fields by forming bund and constructing sluice in Thrikkovilvattom Panchayat	350000	256	120	43000
7	Improvements to Chittuvarambu in Morathavattom from Panambil thodu to Mankadavu sluice	200000	165	35	26000
8	Reclamation of Sakthikulangara-Vattakayal in Sakthikulangara Panchayat	130000	131	94.70	22500
9	Reclamation of Koivila kayal in Munore Island and Thevalakkara Villages	600000	206	412	80000

(1)	(2)	(3)	(4)	(5)	(6)
10	Augumenting Irrigation facilites to the fields lying in between T.S. canal and N.H. 47 in Karunagappally and Kulasekharapuram Villages from Vallikavu jetty to Azhikode jetty	1450000	1400	980	145000
11	Master plan to Ithikara Ela—Converting single crop into double crop in Kottiyar-Vattakkayal in Adichanelloor Panchayat	250000	130	90	25000
	Total—Part II	4890000	3621	2574	520500
	GRAND TOTAL	7290000	5680	3449	680500

M. I. DIVISION, CHENGANNUR

PART I—NEW SCHEMES

1	Providing Bund around Mukkada Kizhakku padom in Thakazhi Panchayat	200000	222	155	17195
2	Development of puncha bunds in Nangiarkulangara—providing irrigation facilities to Karipuzha, Pathiyoor, Ullitta puncha in Mavelikkara and Karthigappally	970800	774	500	57740
3	Providing masonry protection to the outer bunds of Kochuputhenkari Padasekharam in Purakkad Panchayat	231600	247	173	12015
4	Remodelling Venmony I and II L. I. Schemes	300000	358	250	28270
5	Remodelling Changaipadom L. I. Schemes in Venmony village	300000	320	200	44720

6	Constructing bunds for Kareela-Vettika Nadayil Kizhakkuvasam Padam in Pallippad Panchayat	370000	378	265	54900
7	Lift Irrigation facilities to Sugarcane fields on the western side of Mannam Sugar Mills in Thonnallur village	150000	152	100	23400
8	Providing outer bunds to Valiakaripadom and constructing retaining wall to prevent wave action from lake in Kuthiathodu Panchayat	250000	250	170	43938
9	Improvements to Neerozhukku thodu in Peringala fields in Kayamkulam Municipality	60000	..	..	..
10	M.I. works in Muthukulam Panchayat—drainage facilities to Puthuveettil fields and constructing a sluice across the thodu at Nedumpallil north	25000	..	..	..
11	Preventing the entry of saline water to Kalleli Padinjaruvasam and Chirayil Kizhakkuvasam fields by providing sluices and culverts in ward No. 4 of Karthigappally Panchayat	72000	..	..	..
12	Drainage facilities to the fields Vayavakkattu vayal in Ward No. 22 of Kayamkulam Municipality	40000	..	..	..
13	Deepening the thodu at 5/3 Avanakkum thodu in Cheppad Panchayat	35000	..	..	..
14	Irrigation facilities to Papparen fields in Karthigappally Panchayat	65000	..	..	..
15	Constructing culvert and sluice at Anthikkattu chira in Pallikanakku ward	28000	..	..	..
16	Improvements to Valamangalam-Puramchira in Thuravoor Panchayat	66000	..	..	..
17	Forming bund on the side of Vazhiyambalam Koppara thodu in Karuvatta Panchayat	20000	..	..	..

(1)	(2)	(3)	(4)	(5)	(6)
18	Deepening Neendoormoola thodu and constructing sluice-cum-culvert in Pallippad Panchayat	65000	..	..	..
19	Deepening thodu west of Thrippakkadavu temple upto east of Anai Mosque in Cheruthana Panchayat	50000	..	..	..
20	Providing irrigation facilities to the paddy fields from east of Ramapuram L. P. School to Kuramthottukadavu in Pathiyoor Panchayat	40000	..	..	..
21	Drainage facilities to the fields and constructing a sluice across the thodu at Nedumpallil north in Muthukulam Panchayat	27000	..	..	..
22	Constructing a culvert at the west of Vadakara veedu in Manduvalil road in Ward No. 3 of Karthigappally Panchayat	35000	..	..	..
23	Constructing drainage culverts for the Virippu fields of Anary Madathil Padinjaruvasam in Cheruthana Panchayat	40000	..	..	..
24	Irrigation facilities to the paddy fields north of Mannarassala in Ward No. 3 of Harippad Panchayat	45000	..	..	..
25	Improvements to Puthiavila tank Mankulam tank in Kandalloor Panchayat	50000	..	..	..
26	Providing irrigation facilities to the fields at Ayaparambu north and east of Kannyathukulangara east chira in Cheruthana Panchayat	30000	..	..	..

27	Providing a masonry drain north of Ennakattu Purayidam in Kumarapuram Panchayat	20000	..	..	..
28	Improvements to Moozhikalpadi Payalipurathpadi thodu in Ala Panchayat	78000	..	..	..
29	Improvements to Kallupalam thodu in Thennelichal in Koipuram Panchayat	40000	..	..	..
30	Additional protective works to Theverankulam ela in Mezhuveli Panchayat	23000	..	..	..
31	Improvements to thodu from Kaleekal Kulam to Nedumchal in Puliyoor Panchayat	40000	..	..	..
32	Improvements to the thodu from Pallaninchal in Parathappally and constructing a cross bar in Ala Panchayat	80000	..	..	..
33	Improvements to the thodu from Kappuchal to Theverichal in Perissery in Puliyoor Panchayat	22000	..	..	..
34	Improvements to the thodu from Tharayasseri kulam and constructing culverts in Eraviperoor Panchayat	99000	..	..	..
35	Improvements to the thodu from Elavanthelkulam in Palamel Panchayat	40000	..	..	..
36	Improvements to Kattoor Vadakkuvasam chal in Chunakkara Panchayat	68100	..	..	..
37	Deepening Velangar in Thalavady Panchayat	65000	..	..	..
38	Opening a thodu from Thakazhi Hospital thodu to Pulipura thodu in Thakazhy Panchayat	66400	..	..	..
39	M.I. work—constructing a culvert-cum-sluice at Kottakuzhi thodu near Parapalli and culvert at Alumoottil mukku thodu in Eramanoor in Chenthithala Thripperumthara Panchayat	20800		..	..
40	Deepening and improving the thodu from east side of Kollantayam to south to Parayantayam in Bharanicavu Panchayat	28000	..	..	..

(1)	(2)	(3)	(4)	(5)	(6)
41	M.I. works in Bharanicavu—Deepening and improving the thodu flowing along north side of Mangalathu to Edakkadavu culvert	20000	..	..	..
42	Deepening Chekkidikkad Malikizhakke thodu in Thakazhy Panchayat	46850	..	..	..
43	M. I. work in Bharanicavu Panchayat—deepening and improving thodu from Erumakkala padom to east to Pallickal thodu in Bharanicavu Panchayat	25000	..	..	..
44	Deepening and improving the thodu from Munvayal to west to Thiruvichal in Bharanicavu Panchayat	30000	..	..	..
45	Constructing a sluice culvert across Malayil vadakkuvasom in Cherukunnam Vadakke Mankuzhy in Thekkekara Panchayat	21000	..	..	..
46	Strengthening the bund by the side of paddy fields (By thes ide of Valiathumutt—Cheriathumuttu padom) from south of Karumedy to south in Ambalapuzha Panchayat	71340	..	..	..
47	M.I. work in Thonnallur Panchayat—constructing a surplus escape and improving the thodu from Assairkuzhi Mantharamukku	42000	..	..	..
48	M.I. work in Chennithala Thripperumthara Panchayat—improvements to Erikkad thodu from west of Puthenpalli in 6th block of Chennithala puncha in Mavelikara taluk	20000	..	..	..
49	Deepening the thodu in Puthenchira vayal and improvements to Kappukulam in Mavelikara Municipality	22000	..	..	..

50	M. I. work in Edathua Panchayat—providing bund around Mankuzhy padom and deepening vettu thodu in Ward No. 8	82100	..	..	..
51	M. I. work in Edathua Panchayat—providing bund around Chirakkampadam	57800	..	..	..
52	Constructing a culvert cum-sluice-at Kottakozhithodu near Parappally house and a Culvert at Alummoottil mukku thodu in Pramathoor	25000	..	..	..
53	M.I. work forming outer bunds to Chakkankery Arunoorttipadom in Champakulam Panchayat	82000	..	..	..
54	Improvements to Nettayam thodu in Champakulam Panchayat	60000	..	..	..
55	M.I. work in Ambalapuzha Panchayat strengthening outer bunds of Pallikkal padom	40000	..	..	..
56	M.I. work in Thalavady Panchayat—improvements to Chirakuzhy thodu and providing protective works	60000	..	..	..
57	Strengthening the outer bunds of Pulikkal padom in Ward No. 5 in Ambalapuzha Panchayat	42000	..	..	..
58	M.I. work in Champakulam panchayat—deepening the thodu from Attekadavu to Pallikandam	25000	..	..	..
59	Improvements to Chelavadakkedathukulam in Noornadu Panchayat	40000	..	..	..
60	Improvements to thodu and repairs to the sluice in Erumakuzhi in Palamel Panchayat	30000	..	..	..
61	Improvements to Mullappallikkara thodu in Palamel Panchayat	35000	..	..	..
62	Constructing two sluice culverts at Kuzhiyadical and Kunnathukadavu for the benefit of Kaipala padom in Peringara Panchayat	46000	..	..	..

(1)	(2)	(3)	(4)	(5)	(6)
63	Improvements to Poochaval Kadathikkadavu temple padi thodu in Kunnathanam Panchayat additional work	80000	..	..	..
64	M.I. work in Kadapra Panchayat—improvements to Mannar Karachal thodu—additional work	41000	215000	2537	125680
65	Improvements to Kattumuttathu moolakulam in Kunnamthanam Panchayat—additional works	59000	(Total for Items 9 to 68)		
66	Extending and deepening Meppadavu Vilakkumaram thodu in Peringara Panchayat—Balance work and additional works	42000	..	..	..
67	M.I. work in Kadapra Panchayat—Deepening and improving Kundoor Puncha thodu	44000	..	..	..
68	Improvements to Chirayilkulam in Kunnamthanam Panchayat—widening and dumping Vachal thodu constructing culvert etc.	36000	..	..	..
	Total—Part I	5489790	240000	4350	407858

CHENGANNUR DIVISION

PART II—BUDGETTED ITEMS FOR 1970-71

1	Constructing a regulator-cum-bridge at Chirayilmuttu west of Neerattupuram bridge in Thalavadi village	525000	1100	750	27645
2	Constructing strong outer bunds to Thyparambu Padasekharam in Veliyanad Panchayat	959000	1240	860	62450

3	Improvements to Vazhuthanampadom in Karthigapally taluk	1000000	1490	1050	26662
4	Reclamation of portion of Kayal west of Pallipuram in Chennam-Pallipuram Panchayat	2600000	420	..	256960
5	Improvements to Anila thodu in Panavally Panchayat	350000	410	290	45845
6	Cutting open Chakkalamuthu thodu and forming bund around Thekkethollayirampadom in Champakulam village	982000	996	700	90020
7	Lift irrigation to Ennakkad field in Ennakkad village	578000	1133	700	37170
	Total Part—II	6994000	6789	4350	546752
	Grand Total	12483790	33190	8700	954610

M. I. DIVISION, KOTTAYAM

PART I—NEW SCHEMES

1	Irrigation facilities to Kadapattoor and Vellapally karas in Meenachil Taluk	407000	260.31	243.65	40700
2	Strengthening and raising the outer bunds of Kadampadom and Chirakulam Padam in Vazhapally west village	414000	365.00	255.50	41400
3	Improving and deepening Nattu Thodu in Vdayanadapuram Panchayat	150000	205.00	143.00	12000
4	Improvements to Pallom-Thollayiram padom in Nattakom Panchayat	300000	313.00	219.10	30000
5	Strengthening the outer bunds of Meepai Padasekaram in Nattakom Panchayat	200000	300.00	210.00	20000

(1)	(2)	(3)	(4)	(5)	(6)
6	Strengthening the outer bunds of Meerkattu Padasekaram in Thiruvarppu Panchayat	200000	200.00	140.00	15000
7	Improvements to Marayoor Channels	1200000	2500.00	1750.00	120000
8	Widening, deepening and easing curves of Kattachira thodu in Meenachil taluk	1200000	2500.00	1750.00	120000
9	Irrigation facilities by using Suranganagar waters by Kerala ryots	115000	122.83	85.98	10000
10	Strengthening the outer bunds of Kokkodickal-Neduchal Padasekaram in Neendoor Panchayat	150000	130.00	91.00	15000
11	Strengthening the outer bunds of Karipadasekaram in Tiruvarpu Panchayat	130000	110.00	77.00	10000
12	Deepening & Widening Nalumnakal-Kadambattuchira thodu in Vakathanam Panchayat	124000	137.00	96.10	10000
13	Providing irrigation facilities to Panhiravelikara and Injathotti in Mannamkandam Panchayat	1238000	696.00	487.20	123800
14	Improvements to Parayanadi thodu from Mannamkaramukku and strengthening outer bunds etc., in Kurichy Panchayat	200000	200.00	140.00	18000
15	Constructing outer bunds upstream of railway bridge on the left bank of Kondur river in Kottayam taluk	100000	80.00	56.00	9000
16	Improvements to T.R.B. Channel in Marayoor Panchayat	300000	270.00	189.00	30000
17	Strengthening and raising the outer bunds of Odatti Padasekharam in Vazhappally west Village	750000	550.00	385.00	60000

18	Do. Mekkottam Padasekharam in Neendoor Panchayat	600000	500.00	350.00	50000
19	Deepening and improving thodu from Paraveli to Charalil moodo in Apprachira of Kaduthuruthy and Mulakulam Panchayat	150000	260.00	182.00	13000
20	Providing irrigation facilities to Muriamangalam fields in Kanakary Panchayat	60000	65.11	45.50	5000
21	Strengthening the outer bunds of Mukkattupakka in Thamarachal Padasekharam	74000	74.18	52.00	6000
22	Cutting, opening, a thodu from Myladithuruthu in Vembanadu lake in Vaikom Taluk	700000	1286.82	900.77	60000
23	Deepening & Widening cheruchal in Kadapoor in Kanakary Panchayat	100000	100.00	70.00	8000
24	Improvements to Punnathanathumanakkalkulam in Elakkad Panchayat	650000	48.00	33.60	5000
25	Renovating Erattachirakulam in Kanakary Panchayat	30000	30.00	21.00	2800
26	Renovating Kottamalakulam in Kanakary Panchayat	35000	36.00	25.00	3500
27	Constructing a weir and leading channel at Pattithanam in Kanakary village	50000	50.00	35.00	3500
28	Strengthening and raising outer bunds of Ethayikaripadom in Changanacherry Village	400000	300.00	210.00	25000
29	Strengthening and raising outer bunds of Theparam padasekharam in Vazhappally Panchayat	300000	200.00	140.00	20000
30	Do. Krishnankaripadom in Vazhappally Village	100000	90.00	63.00	8000
	Total Part I	9842000	11980.00	8516.00	894700

(1)	(2)	(3)	(4)	(5)	(6)
	PART II—BUDGETTED ITEM FOR 1970-71				
1	Cutting opening a new thodu from Kanjoor thodu in Eadai thodu in Nattakom Panchayat	411000	340.00	238.00	41000
	GRAND TOTAL	10253000	12320.00	8754.00	935700

M. I. DIVISION, ERNAKULAM

PART I—NEW SCHEMES

(1)	(2)	(3)	(4)	(5)	(6)
1	Constructing a cross bar at Kavumpilly chira in Mannath thodu in Thirumarady Pt.	19750	31	16	1500
2	Constructing Manolikulam in Elanji Panchayat	12910	14	7	1200
3	Constructing Paliamkandom cross bar in Avoly Panchayat	9660	11	6	700
4	Constructing Kuzhiyambiithadathil tank in Kozhipilly in Palakuzha Panchayat	15220	20	10	1300
5	Constructing a cross bar at Kaikampuzha in Koothattukulam Pt.	12300	14	7	1000
6	Improvements to Kattupadom chira in Koothattukulam Pt.	90000	99	50	3500
7	Improvements to Adivattuchira in Pothanikad Panchayat	67830	74	27	3500
8	Improvements to Kanayattupotta in Kottapady Panchayat	18000	20	10	2200
9	Improvements to Cherlamattom Potta in Pampakuda Panchayat	11000	12	6	1000

10	Constructing a cross bar at Parathattu in Sy. No. 248/4 in Maarady Panchayat	18300	120	10	1500
11	Deepening Kuzhikanakandom in Marady Pt.	9950	10	5	800
12	Digging an irrigation well in Sy. No. 955/4 in Pampakuda Pt.	9850	10	5	300
13	Constructing Vengalathuchal dam in Pampakuda Pt.	10000	99	50	5000
14	Constructing Chemmikettuchira in Muttuchira in Pampakuda Pt.	80000	79	40	4000
15	Additional works to Neelanimattom cross bar in Purapuzha Pt.	15000	15	12	1000
16	Additional works to Kuzhimattom Irrigation facilities in Karimannur Pt.	18000	66	16	2000
17	Additional works to cross bar across Alapattuthada in Karimannur Pt.	10000	49	8	500
18	Addl. Works to Vellamthana Weir in Udumpannur Pt.	13500	12	3	700
19	Additional works to cross bar across Alakathodu in Kallukad Pt.	9900	10	4	400
20	Constructing a cross bar at Thengumpilly in Kuninji Vazhithalathodu Purapuzha Pt.	14100	14	5	1000
21	Additional works to Manakad tank in Manakad Pt.	9000	10	4	500
22	Additional works to Thazhumanathunnukulam in Kalloorkad Pt.	8000	7	3	1500
23	Additional works to Karumpalamattom cross bar in Karimannur Pt.	10000	10	4	700
24	Additional works to Venmattom cross bar in Kodikulam Pt.	8000	7	3	400
25	Constructing Valiakandom tank in Kodikulam Pt.	9970	10	5	800
26	Digging a well in Sy No. 475/2 Varappetty Pt.	10000	25	15	1500

(1)	(2)	(3)	(4)	(5)	(6)
27	Digging an irrigation well in Sy. No. 1273/3 in Pothanikad Pt.	6200	14	7.50	900
28	Constructing masonry channel at Attelipadom Kothamangalam Pt.	9800	18	10.50	1350
29	Constructing cross bar at Alingalthodu Kothamangalam Pt.	20000	27	15.00	3000
30	Improving Karumugal Potta in Kottapady Pt.	12000	14	7.50	1800
31	Improving Pullikulam Kottapady Pt.	10000	15	9.00	1500
32	Do. tank in Sy. No. 137/44 Do.	15850	16	9	2200
33	Digging a well in Sy. No. 125/7 in Kottapady Pt.	10000	14	7.50	1500
34	Digging a well in Kallamattom in Kattapady Pt.	10000	16	9	1500
35	Improving Paimattom chira in Kavalangad Pt.	19000	30	18	2900
36	Constg. cross bar at Thekkumpadom in do.	7700	11	7	1050
37	Digging an irrigation well in Sy. No. 626/3 in Pindimana Pt.	10000	14	7.50	1500
38	Addl. works to the cross bar at East Erappungal Pindimana Pt.	7000	10	6	1050
39	Protection works to Maramattomthodu in Ayavana Pt.	9900	10	6	1500
40	Irrigation well in Sy. No.505/2 AB Manakadu Pt.	9000	12	7	1350
41	Constg. tank in Sy. No. 266/1 at Arikuzha Manadad Pt.	9950	14	7.50	1550
42	Constg. cross bar at Pathupally, Kodikulam Pt.	25000	37	22	3750
43	Constg. a cross bar and bund at Muttanolyil, Koothattukulam Pt.	49100	47	28	7000
44	Constg. Mamandam chira cross bar in Palakuzha Pt.	8100	11	7	1200
45	Additional works to Edapalachira in Thirumarady Pt.	17950	46	27	2700

46	Digging an irrigation well in Sy. No. 319/4 in Palakuzha Pt.	8200	11	6	1200
47	Irrigation facilities Neendapara in Kavalangad Pt.	99000	198	120	15000
48	Improvements to Kanichukulam in Rayamangalam Pt.	27000	27	15	2500
49	Improvements to Valahanchira in Rayamangalam Pt.	26500	50	30	3300
50	Constructing a cross bar in Valiyathodu in Rayamangalam Pt.	29400	40	24	4000
51	Constructing a cross bar in Vaikkarathodu in Rayamangalam Pt.	7700	14	7	1000
52	Reconstructing Mekkappala cross bar in Vengur Pt.	26000	6	5	3900
53	Improvements to Thrikkayilkulam in Asamannur Pt.	16800	25	15	2400
54	Improvements to Melathinal chira in Koovapady Panchayat	25700	125	50	3700
55	Improvements to Kadampally chira in Vengoor Pt.	28000	33	20	4000
56	Constructing a cross bar across Chalikuzhithodu in Thiruvankulam Pt.	18900	26	15	2700
57	Special improvements to Avanamcode No. I.A. L.I. Scheme	200000	148	120	30000
58	Providing lining to branch channels in Avanamcode No. I.L.I., Scheme	350000	198	160	50000
59	Construction of branch Channels of Kanjoor Edanad, L. I. Scheme	900000	741	600	135000
60	Kandampuzha L.I. Schemes Balance works	100000	99	80	15000
61	Balance works to Kayanad L.I. Scheme	100000	99	80	15000
62	Constructing outer bunds to Udayamperoor kari lands	10 lakhs	988	800	15000

(1)	(2)	(3)	(4)	(5)	(6)
63	Improvements to Amballoor Keecheri bund II Section—Construction of sluices	2.50	198	160	37600
64	Providing outer bunds to the Padathuruthupapadom in Mullvanad village	6.00	198	160	90000
65	Reconstruction of old and damaged sluices in Chellanam area	2.00	99	80	30000
66	Constructing bund and sluice at Kolothumkadavu in Kadumprayar	1.50	346	280	22000
67	Constructing sluice across Changadam Pokkuthodu in Edappally	1.50	124	100	22000
68	Constructing bund and sluice at Vacca Chira	3.00	494	400	45000
69	Improvements to Kazhuthachira in Parur Taluk	5.00	494	400	75000
70	Improvements to Thuruthithodu Moonnu Payyani canal in Keezhumadu Panchayat Alwaye Taluk	6.00	494	1000	90000
71	Constructing a canal from Utharam Cherpu at Neendapara in Kavalangad Pt.	1.50	148	120	22000
72	Constructing Kathupadam Chira in Koothattukulam Panchayat	1.00	99	80	15000
	Total	6829990	6646	5481	827950

PART II.—BUDGETTED ITEMS FOR 1970-71

(1)	(2)	(3)	(4)	(5)	(6)
1	Special improvements to Kadungallur L.I. Scheme	2.00	198	160	30000
2	Constructing R.C.C. Flume for Uliyannur L.I. Scheme and improvements	0.50	49	40	7500

3	Constructing Permanent sluice for Neduvannur L.I. Scheme	0.75	74	60	7500
4	Special improvements to Parakkadavu No. II L.I. Scheme	3.50	296	240	50000
5	Watering and dewatering Edayattuchal in Kadungalloor L.I. Scheme	0.55	99	80	7500
6	Special improvements to Karumalloor L.I. Scheme No. I	1.50	148	120	22000
7	Do. to Karumalloor No. II	0.75	74	60	11000
8	Do. Karugapilly L.I. Scheme	2.00	198	160	30000
9	Thiruvalanchuzhi L.I. Scheme	8.00	741	600	120000
10	Panely L.I. Scheme	4.00	371	300	60000
11	South Vellarappilly L.I. Scheme	4.00	395	320	60000
12	Chalakkal L.I. Scheme	4.00	371	300	60000
13	Ayroor L.I. Scheme	10.00	988	800	150000
14	Aduvathuruthu L.I. Scheme	3.00	272	220	45000
15	Kandampuzha Relift Scheme	2.50	272	220	35000
16	Improvements to Pazhoor L.I. Scheme	0.75	74	60	10000
17	Extension and improvements to Puthumanakadavu L.I. Scheme	1.50	148	120	22000
18	Special improvements to Ramamangalam No. II L.I. Scheme	1.50	148	120	22000
19	Special improvements to BF & CE Channels of Piravam L.I. Scheme	1.00	99	80	15000
20	Additional works to Puthupady L.I. Scheme	0.50	49	40	7500
21	Special improvements to Netchoor L.I. Scheme	0.75	74	60	10000
22	Special improvements to Ramamangalam No. III L.I. Scheme	0.50	49	60	12000
23	Additional works to Ramamangalam No. I L.I. Scheme	0.50	49	40	7500
24	Special improvements to Marady L.I. Scheme	0.50	49	40	7500
25	Narmala L.I. Scheme	6.00	593	480	60000
26	Kavana L.I. Scheme	3.00	296	240	30000

(1)	(2)	(3)	(4)	(5)	(6)
27	Special improvements to Kadathy L.I. Scheme	1.00	99	80	15000
28	Special improvements to Kakkad L.I. Scheme	1.00	99	80	15000
29	Acquiring and improving outer bunds in Kandakadavu-Maravukad Patasekharam	10.00	988	800	150000
30	Reclamation of Puthuvaipu in Elamkunnapuzha Panchayat	6.00	741	600	90000
31	Opening canal from Cheriapallypuzha to Kandakavu and constructing regulators in Parur bund	9.00	2471	1900	135000
	Total	9055000	10572	8480	1304000
	GRAND TOTAL	15884990	17218	13961	2131950

M.I. DIVISION, TRICHUR

(1)	(2)	(3)	(4)	(5)	(6)
1	Improvements to West Chalakudy L.I. Scheme	100000	350	100	10000
2	Additional works to existing sluice in Kollanchery thodu in Kadavallur Panchayat	21000	46	18	1050
3	Constructing a cross bar at Parakkal in Cheruthodu Panjal Panchayat	26000	40	16	1300
4	Construction of a cross bar across Palamthodu in Valappad Panchayat	3000	150	75	3000
5	Improvements to Chettukulam in Sy. No. 570 of Arthat Panchayat	65000	91	36	10400
6	Karappanchira scheme in Vilavattom Panchayat	99900	105	53	6000
7	Improvements to Kachithodu dam	112000	177	88	14850

8	Reconstructing Palleriparamba in Chennamthette village in Chowannur Panchayat	35000	43	17	1700
9	Constructing a cross bar in Chondakuthodu Anchangadi in Srinarayanapuram Panchayat	25000	60	30	2500
10	Urgent works to Vynthela L.I. Scheme	114500	200	100	12000
11	Improvements to Kundur L.I. Scheme	100000	500	500	10000
12	Improvements to Kalladikulam in Kumaranellur village, Wadakkanchery Panchayat	23000	25	10	2760
13	Constructing a cross bar across Arappathodu at Kooniyara thodu in Srinarayanapuram	25000	80	40	2500
14	Aruparamba and Pottankulam L.I. Scheme	250000	200	100	10300
15	Improvements to Neelichirakulam in Pazhayannur Panchayat	21500	32	13	2580
16	Improvements to Edathuruthy L. I. Scheme	75000	305	50	8000
17	Improvements to Thiruvanchira tank in Vallachira Panchayat	50500	107	100	5000
18	Improvements to Chonattukulam in Kurumala village Chelakkara Panchayat	15500	26	10	1860
19	Improvements to T.P. S. at Nellai construction of permanent pump house and canal upto N.H. way	17000	119	24	2000
20	Improvements to Vallachirakulam in Vallachira Panchayat	75000	75	40	5000
21	Constructing a sluice across Chiyyaram-Ollur thodu in Ollur Panchayat	20000	65	20	1500
22	Constructing a dam across Cheruvakkilchola in Erumapetty Panchayat	285000	250	209	10410
23	Constructing a dam across Parapara chola in Thekkumkara Panchayat	97000	136	68	4200
24	Chuttikarachira in Puthur Panchayat	52300	90	90	3160
25	Constructing a sluice in Sy. No. 649 of Vengancllur village, Chelakkara Panchayat	19000	30	12	950

(1)	(2)	(3)	(4)	(5)	(6)
26	Alamittam L.I. Scheme	100000	100	50	6050
27	Improvements to Mandaram L.I. Scheme	50000	350	50	3000
28	Improvements to Thorava Cheruval drainage Scheme	100000	100	50	15000
29	Constructing a cross bar across Karamathodu and improving tank in Kolazhi Panchayat	54000	60	30	3000
30	Improvements to Vazhukkumpara thodu and deepening Kolavannakulam in Chowannur Panchayat	35000	83	33	2800
31	Improvements to Venkulam in Veloorkara Panchayat	68000	188	110	6200
32	Constructing a bund for Kuttoor fields	109500	126	63	13860
33	Improvements to Koduvelikulam in Killannur Panchayat	50000	50	25	3000
34	Improvements to the Sankankarankulam in Sy. No. 1916 of Kandanisseri Panchayat	26600	30	12	3190
35	Constructing a cross bar across Puzhakkal thodu Adat Panchayat	50200	108	54	2210
36	Munipara Kanjirapally L.I. Scheme	83000	120	60	3740
37	Improvements to the sluice in Choondal thodu at Chiraparamba in Sy. No. 1348 Choondal Panchayat	23000	39	16	1150
38	Providing cross bar and protective works at the existing temporary bunds at Methala Manimakkilthodu	100000	100	50	10000
39	Constructing a cross bar across Arathodu in Pookode Panchayat	20000	25	15	1000

40	Improvements and protective works to the vented dam 2 furlongs upstream of Chowallurpadi bridge	6700	91	36	35
41	Improvements to Arakulam in Ollur Panchayat	40000	50	25	2000
42	Improvements to Palakuzhi chira in Ollukara Panchayat	20000	20	10	1000
43	Improving Kozhikkottukulam in Pulakad village Varavoor Panchayat	85000	146	58	13600
44	Repairs to Pottachirakulam in Sy. No. 3 of Thelanari village, Desamangalam Panchayat	13400	82	33	1600
45	Pattikkarakayal Scheme in Choondal Panchayat	77900	116	58	3080
46	Kondazhinjal Kadavu L.I. Scheme	98000	162	100	4525
47	Constructing a cross bar across Madakathra thodu at Thottanchira	42000	42	21	4150
48	Constructing a cross bar in Kaniyathu thodu in Kodungallur Panchayat	30000	150	75	300
50	Improvements to Pottor Chennamkulam in Kolazhi Panchayat	30000	30	15	1500
51	Repairs to Ayyankulam in Veloor Panchayat	20000	25	10	2400
52	Closing breaches at Downstream of sluice in Pattiparamba thodu Thiruvilwamala Panchayat	3200	35	14	160
53	Repairs to Thrikkaikulam in Thalanur village Desamangalam Panchayat	35000	45	18	4200
54	Repairs to Manjachirakulam in Varavoor Panchayat	30000	45	18	3600
55	Improvements to Pandankulam in Thonnurkara village, Chelakkara Panchayat	20000	20	8	2400
56	Improvements to Pandarachira in Pangarapilly thodu, Chelakkara Panchayat	12500	29	12	625
57	Improvements to Nallukuthankulam Pazhayannur Panchayat	10000	71	28	800
58	Improvements and protective works to Muttipadam sluice in Kadavallur Panchayat	25000	65	26	1250

(1)	(2)	(3)	(4)	(5)	(6)
59	Repairs to Arakulam in Tali Village, Varavoor Panchayat	25000	30	12	3000
60	Improvements to Korandikulam, Cheruthuruthy Panchayat	15000	30	12	800
61	Improvements to Korankulam in Thonnurkara village in Chelakara Panchayat	10000	15	6	1200
62	Improvements to sluice in Sy. No. 714 of Nedumpuram village, Cheruthuruthy Panchayat	15000	38	15	750
63	Improvements to the sluice in Perumthodu Cheruthuruthy Panchayat	15000	24	10	750
64	Improvements to sluice in Sy. No. 710 Venganellur village, Chelakkara Panchayat	17900	22	9	900
65	Improvements to Ayyanthole L.I. Scheme	75000	367	20	25000
66	Constructing a regulator cum bridge across Chennamchal in Mullasseri Panchayat	161000	165	85	10000
67	Parukettupuncha Scheme in Punnayurkulam Panchayat	577600	630	350	20000
68	Kalanikayal 'B' Block Reclamation Scheme	500000	371	300	40000
69	Improving Thanipurathu Chira in Vilvattom Panchayat	30000	30	15	1500
70	Reconstructing Mukkil in Thangaloor village Avanur Panchayat	50000	60	30	3000
71	Opening a thodu from Muriyad to Irrinjalakuda Municipal area and pumping excess water to S.M. Kanal via Chaliyanpadom	700000	1000	300	50000
72	Improvements to Potnambu Chira and opening a canal to S.M. Canal via Chalampadam	300000	1000	500	30000
	Total—Part I	5743700	9778	4681	445545

PART II—BUDGETTED ITEMS FOR 1970-71

1	Improvements to Kuzhur Comprehensive scheme	100000	500	160	10000
2	Ithichirakundu L.I. Scheme	270000	357	255	13500
3	Anthicad L.I. Scheme	473000	700	350	36830
4	Improvements to Thottanchira and Kannanchira in Thanniyam Panchayat	220000	288	144	19900
5	Pandallur Padom L.I. Scheme	305000	443	436	14900
	Total —Part II	1368000	2288	1345	95030
	Grand Total	7111700	12066	6025	540575

MINOR IRRIGATION DIVISION, PALGHAT

PART I—NEW SCHEMES

		Lakhs		Tonnes	
1	Vazhapallam scheme in Kizhakkancherry amsom Alathur taluk	24.00	1680	1134	150000
2	Improvements to Mullam thodu Irrigation system in Pipully Panchayat Chittur Taluk	1.75	166	33	14850
3	Improvements to Mulayankulam in Kadambur-Ambalappara Panchayat—Ottapalam	0.30	25	10	4800
4	Improvements to Kottaramkulam in Ambalappara Panchayat, Ottapalam Taluk	0.25	25	10	4000
5	Improvements to Perimkkankottukulam in Kodulur Pattambi Panchayat, Ottapalam Taluk	0.75	76	30.20	11250

(1)	(2)	(3)	(4)	(5)	(6)
6	Improvements to Valiakulam in Varode Ottapalam Panchayat	0.60	66	26.40	9000
7	Improvements to Kadamkulam in Vadanamkurissi in Ongallur Panchayat, Ottapalam Taluk	0.50	54	21.60	7500
8	Constructing a reservoir at Narakku in Shornur Panchayat, Ottapalam Taluk	0.80	76	30.00	8000
9	L.I. Scheme at Kottakadavu in Paruthur Panchayat, Ottapalam Taluk	1.38	139	91.00	9840
10	L.I. Scheme at Vellingal Kadavu in Paruthur Panchayat in Ottapalam Taluk	2.00	235	145.00	10800
	Total—Part I	32.33	2542	1531	230040
	PART II—BUDGETTED ITEMS FOR 1970-71				
1	Venkalakayam Reservoir Scheme	2305500	9180	1885	310000
2	Karingayam Reservoir Scheme in Alathur Taluk	251400	220	217	36000
3	Storage Reservoir at Karuvatta in Kattisseri Village, Alathur Taluk	170000	160	62	18000
4	L.I. Scheme in Vilayur Village	800000	1000	820	40000
	Total—Part II	3526900	10560	2935	404000
	Grand Total	6759000	13102	4466	634040

MINOR IRRIGATION DIVISION, MALAPPURAM

PART I—NEW SCHEMES

		Lakhs	*Acre*	*Tonnes*	
1	Lift Irrigation works at Mullankuzhi in Mooniyur Panchayat	1.70	173.61	81	17775
2	L.I. Scheme at Irringallur	2.86	275	130	30000
3	L.I. Scheme at Manali	2.5	230	107	37500
4	L.I. Scheme at Muppini Pallikkadavu	6.8	450	210	100000
5	Lift Irrigation in Iribillium Lining of Canals	1.00	390	80	15000
6	Lining to Canals of Kurudipuzha Scheme	1.00	400	..	15000
7	Draught relief Kodinji Fields	60000	500	100	4000
8	Approach roads and canal lining for the Benchali Reclamation Scheme and providing office and residential accommodation	5.00	200	834	70025
9	Irrigation—Valiakunnu Irribillium thodu, widening and deepening	5.00	440	176.34	67500
10	Constructing a weir across Marutha river in Edakkara	2.17	237	165	33400
11	Improvements to Irrivettikulam in Kavanur Panchayat	35000	33	8	1650
12	Improvements to Pothukuzhichira in Pallikkal Panchayat	53000	114	29	2450
13	Improvements to Choonurchira in Chengathur	22000	54	14	1100
14	Improvements to Kappil thodu in Mandankundu	22000	61.56	15	1035
15	Do. Vellaranthodu in Karupur amsom	26000	51	13	1155
16	Do. Korankadavu in Kondotty Panchayat	25000	50	13	1250
17	Improvements to V.C.B. Muttippalam thodu in Pookottur Panchayat	8900	13	3	445
18	Do. to Palakal chira in Pookottur Panchayat	16000	27	7	800

(1)	(2)	(3)	(4)	(5)	(6)
19	Constructing a V.C.B. across Valia thodu in Urangattiri	22000	40	10	1100
20	Do. V.C.B. across Pallakkal thodu in Kottakal	21000	25	6	1000
21	Improvements to Tamarakulam in Porur Panchayat	30000	31	8	1500
22	Do. to Ponnan chirakulam Kavanur	49000	54	13	2450
23	Constructing V.C.B. cum bridge across Kakkathodu in Porur Panchayat	46000	47	12	7250
24	Improvements to V.C.B. Chennoli thodu in Karipur	28000	74	19	1350
25	Do. to Cherayil thodu in Karippur	25000	50	127	1250
26	Do. Karad tank in Wandur Panchayat	30000	35	9	1500
27	Do. Pookulam in Wandoor Panchayat	39000	44	11	1950
28	Constructing a V.C.B. across Panachi chira at Cherattukuzhi in Malappuram Municipality	25000	30	8	1250
29	Improvements to Chemmaniyur thodu in Karipur amsom	30000	69	17	1500
30	Improvements to Puthen Chira in Hajiar Palli in Malappuram Municipality	11000	19	5	535
31	Constructing a V.C.B. across Irimbanchola in A.R. Nagar Panchayat	12000	21.94	5.48	1725
32	Improvements to V.C.B. across Sankaran chira in Thenhipalam Panchayat	8000	279	69.75	1200
33	Improvements to Pangodechira in Kattiparuthy Panchayat	35000	67.60	17	5250
34	Do. Munduvelichira in Kattiparuthy Panchayat	14000	39.3	10	2100
35	Do. to Kozhivakkalchira in Edayar	15000	49.12	12	2250

36	Constructing a V.C.B. across Koonallur thodu in Tirunavaya Panchayat	37000	64.21	18	5400
37	Constructing a V.C.B. at Manhakkattil Padam in Thenhipalam Panchayat	13000	20	5	1800
38	Do. a V.C.B. at Koonamagu across Kundu-thodu in Nannambra Panchayat	40000	49.10	12.3	5700
39	Improvements to Vazhakulam in Cherur	9000	15	4	1100
40	Do. to V.C.B. Atturchira in Iringalur	18000	62.64	15.66	2700
41	Velimukku chali drainage scheme in Mooniyur Panchayat	150000	202.87	94.64	20250
42	Constructing a V.C.B. across Moorikkai thodu in Vallikunnu	13000	30	7.5	1875
43	Constructing a weir across Mootayil chola in Mankada	20800	42.92	21	3045
44	Widening and deepening the thodu from Kadakattuthazham to Neeliyad	12000	20	5	200
45	Constructing a V.C.B. at Athanikal chira at Vellila	44000	50.31	25	6480
46	Constructing a V.C.B. at Thiruthingal in Pathaikara	11000	28	7	1670
47	Do. V.C.B. -cum-bridge across Arangattur chira	80000	29.38	15	11812
48	Improvements to Vallamkulam at Kappil in Vettathur	20000	22.18	12	4912
49	Improvements to Chowannachira in Mankada	14000	149.28	74	2100
50	Do. to Vengayilchira in Kodur Panchayat	10000	52.26	26	1575
51	Side Protection works to U/s. of Makkaraparamba V.C.B.	55000	169.30	85	8250
52	Improvements to Cheriakulam in Kozhanthara in Elamkulam Panchayat	16000	20	10	2400
53	Constructing a V.C.B. at D/s. side of Railway Station at Valampur	18000	32.36	16	2520

(1)	(2)	(3)	(4)	(5)	(6)
54	Improvements to Nhandukkani chola at Vellila	22000	26.75	14	3'50
55	Constructing a V.C.B. across Kakkathodu near Khangathichira in Elamkulam Panchayat	53000	74.33	37	7875
56	Constructing a V.C.B. across Kelanthodu at Vengad in Moorkanad Panchayat	16000	17.32	3	2205
57	Constructing a V.C.B. cum bridge at Chozhivalam chira at Vellila in Mankada	47000	50	25	7050
58	Improvements to Paloor Kottashola at Kadungapuram in Puzhakkattiri Panchayat	60000	75	38	9000
59	Constructing a V.C.B. cum-bridge across Chakiarathodu near Pang in Kuruva	22000	20	10	3300
60	Constructing a V.C.B. across Velakkannapara thodu in Chunkathara Panchayat	38000	50	13	1500
61	Improvements to Veethikuthur tank in Nilambur	36000	36.52	9	5000
62	Improvements to Chonur Moochikal chira	7000	56.23	14	350
63	Constructing a tank in Maladi in Edakkara Panchayat	55000	60	15	8000
	Total—Part I	4447700	7191	2982	567464

PART II—BUDGETTED ITEMS FOR 1970-71

1	L.I. Schemes at Chekkuthankundu—Providing approach road to pump house and lining of canals and (Item No. 150 page 85) Providing office and residential accommodation to staff	8.5 lakh	3400 Ac.	1500 T	120000
2	L.I. Scheme at Trikulam (Item No. 151 page 86) Lining of canal	1	470	219	15000

3	L.I. Scheme at Ullanam (Item No. 152 page 86) Lining of canals and 2nd stage improvements	2.5	672.67	313.6	30000
4	Kattupara Lift Irrigation Scheme (Item No. 156 page 86) Lining of Canals and improvements to banks	2.5	691	322	37500
5	Thirunavaya L.I. Scheme (Item No. 157 P. 86)	13	1300	606	134000
6	Vazhakad L.I. Scheme(Item No. 158 P. 86)	4.30	430	210	11300
7	Kannampally L.I. Scheme (Item No. 162 P. 86)	2.58	253	126	8775
8	L.I. Scheme at Edakkara (Item No. 164 P. 86)	2.05	77	97	5900
9	L.I. Scheme at Eswaramangalam (Item No. 165 P. 86)	3.75	743	416	36133
10	L.I. Scheme at Madirasseri (Item No. 168 P. 86)	2.5	252	190	27390
11	Lifted storage at Othallur (Item No. 168 P. 86)	4.8	1177	589	90812
12	Lifted storage at Panthavoor (169)	1.65	517	388	10455
13	Additional improvements to L.I. Scheme in S. No. 8 Thavannur (Item No. 170 P. 86)	2.27	958	447	54044
14	Additional improvements to L.I. Scheme in Pothanur	2.29	818	403	34380
15	L.I. Scheme in Moothikayam (172 P. 86)	2.35	216	138	20700
16	Extension of L.I. Scheme in Kattupara (Item 173 P. 86)	0.68	95	48	3150
17	Improvements to L.I. Scheme in 128/1 of Thavanur (Item No. 58 P. 86)	2.00	678	336	30000
18	Lifted Irrigation scheme at Kankayam (No. 174 P. 86)	5.00	500	250	60000
19	Kanhirakulam L.I. Scheme in Marancheri Panchayat (Item 57 P. 89)	2.00	200	93	18000
20	Pandalurpuzha Diversion scheme (Item 136 P.75)	4.5	400	187	22200
21	Improvements to Valiyathodu from Manjeri to Pulacode (Item No. 138 P. 75)	5	1035	463	60000

(1)	(2)	(3)	(4)	(5)	(6)
22	Kundanpadam drainage scheme Item 139 P. 75	6	1283	598.5	144600
23	Puncha kole crops at Thiruthummalkette in Nannamukku Panchayat	4.61	519.40	259.70	69150
	Total	85.83	16815	3191	1043489
	Grand Total	13030700	24006	11173	1610953

MINOR IRRIGATION DIVISION, CALICUT

PART I—NEW SCHEMES

1	Salt water exclusion V.C.B. at Purakkattery in Elathur	14000	54.47	11.00	900
2	Salt water exclusion V.C.B. at Chathankari thodu in Kadalundy Panchayat	23000	25.46	5.00	1300
3	V.C.B. across Chakkalamkunnu thodu in Kunnamangalam Panchayat	23000	23.68	4.50	1700
4	Salt water exclusion V.C.B. at Edachira in Kadalundy Panchayat	16000	24.45	5.00	900
5	V.C.B. at Vellancode in Kodencherry Panchayat	7000	12.00	2.40	400
6	Improvements to Puthukulam in Manimunda Panchayat and constructing a V.C.B. 400 m. downstream	10000	26.87	5.30	800
7	V.C.B. at Kalanmoola in Thamarassery Panchayat	19000	29.21	6.00	1300

8	Improvements to Kunnamkulam in Kakkody Panchayat	13000	20.00	4.00	800
9	Improvements to Shariakulam in Kakkody Panchayat	11000	15.00	3.00	1000
10	Widening and deepening of the existing thodu near Valakkadu thodu in Kakkody Panchayat	43000	100.00	20.00	7000
11	Improvements to Ambalakulam in Annasserry and providing pumpset	57000	35.00	7.00	5400
12	Constructing a tank at Annassery in Thalakulathoor Panchayat	20000	20.00	4.00	2100
13	Constructing a retaining wall to the Poocholy Thazham thodu in Chelannur Panchayat	31000	25.00	5.00	2000
14	Improving Paduthikulam in Puthur desom and providing pumpset in Elathur Panchayat	36000	35.00	7.00	3300
15	Constructing a salt water exclusion V.C.B. at Meetayilthazham thodu Neelloor in Elathur Panchayat	20000	15.00	3.00	1300
16	Constructing a salt water exclusion V.C.B. at Thekkumpuram Neelloor in Elathur Panchayat	30000	25.00	5.00	2000
17	Improvements to Parakkunnummal in Kizhakkoth Panchayat	11000	10.00	2.00	1100
18	Constructing a V.C.B. across Aryankulam thodu in Thamarasserry Panchayat (Kidavoor desom)	10100	120.000	2.40	6700
19	Constructing a tank near Karattuparambu in Madavoor Panchayat	12000	10.00	2.00	1100
20	Deepening and widening thodu from Kolatharapadam to Kundayil thodu (1700 M)	172000	300.00	60.00	17900
21	V.C.B. at Kaitholi thodu in Feroke Panchayat	12000	18.00	3.60	600
22	V.C.B. at Muriallingal in Kadalundy Panchayat	32000	24.00	4.80	2000
23	V.C.B. at Chungam in Thamarassery Panchayat	8000	31.43	15.08	500
24	Vented cross Bar across Madhanna thodu in Ambalavayal Panchayat	18000	53.64	15.00	1000

(1)	(2)	(3)	(4)	(4)	(6)
25	V.C.B. across Thelampetta thodu in Thenoor in Noolpuzha Panchayat	57000	75.00	20.00	4000
26	Mylampady M.I. Scheme	120000	150.00	40.00	8000
27	Vandichira in Purakkadi	6000	10.00	2.50	400
28	Improvements to Ambalakunnuchira in Purakkadi Panchayat	7000	6.00	1.50	450
29	Improvements to Vattathuvayal chira in Purakkady Panchayat	6000	8.00	2.00	400
30	Improvements to Vedakkandy chira in Purakkad Panchayat	8000	10.00	2.50	500
31	Improvements to Ayyappanchira in Purakkadi Panchayat	7000	8.00	2.00	450
32	Renovation to Kaithakolly chira in Nenmeni Amsom	8000	16.00	2.00	500
33	V.C.B. across Anappara thodu in Ambalavayal	11000	16.00	3.00	800
34	Improvements to Maithanichira in S. Battery Village	9000	10.00	2.00	600
35	V.C.B. across Choorakuni thodu in Manivayal	35000	15.00	4.00	2400
36	V.C.B. across Vallathu thodu near Cheeral in Noolpuzha Panchayat	20000	15.00	4.00	1400
37	V.C.B. across Paippanchira thodu in S. Battery Panchayat	25000	10.00	2.50	1600
38	V.C.B. across Puttirayanpuzha	100000	70.00	16.00	6600
39	Constructing a V.C.B. across Kappundikkal Thariyode Panchayat	23000	27.75	19.00	1000
40	Constructing a V.C.B. at Poolakolly chira in Kottathara Panchayat	20000	25.00	17.50	930
41	Constructing a V.C.B. at Poolleri in Kottathara Panchayat	20000	38.95	26.60	855

42	V.C.B. across Vilakkathara in Meppady Panchayat	42000	50.00	35.00	2140
43	V.C.B. at Oruvammal thodu in Kottathara Panchayat	32000	30.95	21.60	1430
44	V.C.B. across Madakkarakallu thodu in Meppady Panchayat	30000	32.00	22.40	1215
45	V.C.B. at Kuzhinhangad in Maniyampetta Panchayat	11000	26.10	18.20	570
46	V.C.B. at Cholappara thodu in Maniyampetta Panchayat	12000	52.00	36.40	570
47	Constructing a storage at Pallimoola in Muttil Panchayat	13000	20.00	14.00	640
48	Improvements to Aryvayal chira in Kaniyanpetta Panchayat	12000	15.00	10.50	855
49	V.C.B. at Kumblavayal in Thariyode Panchayat	15000	20.00	14.00	855
50	V.C.B. at Puthenvayal do.	11000	15.00	10.50	715
51	V.C.B. at Chekuthan thodu do.	30000	110.00	77.00	1430
52	V.C.B. at Varanpetta thodu do.	75000	100.00	70.00	3570
53	V.C.B. at Arepetta thodu in Meppady Panchayat	75000	90.00	63.00	3570
54	Constructing V.C.B. cum bridge at Arimulapuzha in Poothady Panchayat	65000	250.00	125.00	3600
55	V.C.B. at Kappavayal in Thariyode	50000	65.00	32.50	2800
56	Deepening Palakulam in Atholi Panchayat of Quilandy taluk and installing a pumpset	30000	25.00	12.00	1000
57	Improvements to Authrachalil tank in ward 6 of Chengottukavu Panchayat	10000	13.00	6.00	550
58	Improvements to Chalorakulam at Peruvattar and installing a pumpset in Quilandy Panchayat	15000	15.00	7.00	850
59	Widening of thodu from Kaniyankandy thazha to Cherapuzha in Keezhariyur	15000	13.00	6.00	850

(1)	(2)	(3)	(4)	(5)	(6)
60	Deepening and widening of Elankamal thodu to Veliyannur chally in Quilandy	30000	25.00	12.00	1700
61	Improvements to Krishnakulam of Thiruvangoor and providing pumpsets in Chemancherry Panchayat of Quilandy taluk	25000	20.00	10.00	1300
62	Constucting a salt water exclusion V.C.B. at Kappad in Chemancherry Panchayat of Quilandy	55000	25.00	12.00	1700
63	Widening and deepening of thodu from Chittadi thodu to Cherapuzha in Thurayur Panchayat	30000	20.00	10.00	1700
64	Widening and deepening the thodu from Naivarunni to Poovadithara in Thikkodi Panchayat	20000	20.00	10.00	1000
65	Deepening of Anakuzhi tank and providing with pumpsets	10000	13.00	6.00	500
66	Widening and deepening the channel from Muchukunnu Achanveedunada to Vellarakkad Railway station in Moodadi Panchayat	50000	25.00	12.00	2300
67	Constructing a V.C.B. cum regulator in Vengalathukandy thazha in Quilandy	95000	131.00	26.00	5400
68	Improvements to V.C.B. at Acheri thodu	70000	133.00	26.00	4000
69	Lift Irrigation scheme at Valayannur tank of Kuttiyadi Panchayat in Badagara Taluk	200000	250.00	125.00	10000
70	Constructing a V.C.B. at Kakkamvelly in Purameri Panchayat	10000	15.00	7.00	550
71	V.C.B. at Kodankuni in Eramala Panchayat of Badagara taluk and forming side bunds	100000	63.00	30.00	5000
72	Widening and deepening Moozhikulangara tank in Eramala Panchayat and installing pumpsets	20000	25.00	12.00	1000

73	Deepening Chattkulam in Eramala Panchayat and installing pumpsets	25000	37.00	20.00	1200
74	Reconstructing the V.C.B. at Charankayil in Azhiyur Panchayat	40000	37.00	20.00	2200
	Total for Part I	2644000	3345	1288	150745

PART II—BUDGETTED ITEMS FOR 1970-71

1	Widening and deepening of thodu from Naivaruni Culvert to Nelliai i culvert and construction of two fort bridges	50000	125	60	2800
2	Improvements to Ayinicad Dam	200000	230	115	10000
3	Widening and deepening the thodu from Cherode V.C.B. to Vallikkad V.C.B.	50000	37	60	2800
	Total Part II	300000	392	235	15600
	GRAND TOTAL	2944000	3737	1523	166345

MINOR IRRIGATION DIVISION, CANNANORE

PART I—NEW SCHEMES

1	Flood rectification to the bank of Uppala river at Uppala anicut	20000	15	3	1700
2	Special repairs to the C.B. across Suvarnagiri in Mangalpady village	13000	30	6	1000
3	Excavating a tank in Peruvabailu in Meenja Panchayat	36000	40	20	3000

(1)	(2)	(3)	(4)	(5)	(6)
4	Constructing a bridge cum C.B. across Suvarnagiri at Odangala	100000	100	20	8400
5	Constructing a C.B. across Alampady thodu in Matta thody village	20000	30	6	1650
6	Improvements to Thurkamankulam in Mogral puthur village	15000	10	2	1250
7	Constructing a V.C.B. at parakkadavu at Eraman north	65000	55	11	5400
8	Constructing 3 cross bars at Kokkanessery vayal at payyannur	45000	60	12	3500
9	Bund and cross bar at Veliyampuzha in payyannur	150000	300	120	11500
10	Constructing diversion weir across Karavan kayam thodu in padiyur Kallyad panchayat	60000	80	40	5000
11	Constructing diversion weir across Pulikuramba thodu in do. do.	75000	100	50	6200
12	Do. V.C.B. a cross Vattakunnu thodu in Nediyanga village	30000	40	20	2500
13	L.I. Scheme at Kottur in Sreekandapuram	100000	100	40	6200
14	Widening and deepening Ramanpalam thodu in Parapuzha Panchayat	75000	110	22	2500
15	Renovation of Kundumkulam in Kunhimangalam Panchayat	25000	40	8	8300
16	Constructing a S.W.E. bund and sluice in the left bank of Ancharakandy river at Manayal and Kunnathu	75000	98	39.2	6300
17	Constructing an irrigation canal and outlet at Kavumbhagam in Tellicherry Municipality	37000	39	15.6	3100

	onstructing S.W.E. bund and sluice in the right bank of Ummanchira puzha in Pinarai Panchayat	30000	30	12	2500
19	Improvements to Iriveri thodu in Irriveri village (Addl. work)	40000	128	25.6	3300
20	Constructing a weir across Mundakadavu thodu in Tripangathur Panchayat	50000	40	16	4200
21	Constructing a V.D. across Thiruthipuzha in Tripangathur Panchayat	50000	40	16	4200
22	Constructing a V.C.B. at Kummathuthazha at Puthur in Kunnathu Paramba Panchayat	30000	26	5	2500
23	Vempuzha diversion scheme in Aralam amsom	450000	450	180	38000
24	Constructing a Regulator cum lock across Dharmadam river at Uzhal constructing a bridge-cum-regulator across Dharmadam river at Melur	1000000	1500	750	84000
25	L.I. Scheme at Arattuthara in Vemom village in Manantoddy Panchayat	400000	250	125	33000
26	Constructing a bridge-cum-regulator at Mulambra chira in Payayal Village	25000	17.4	3.48	2100
27	Do. at Therhai in Pillicode Panchayat	40000	40	8	3300
28	Do. at Aner	75000	60	12	6300
29	Improvements to Kaipad bunds in betta and putting up salt exclusion proof bar	80000	70	14	6700
30	Constructing a regulator-cum-bridge at Moothingal in Belur Panchayat	15000	15	3	1250
31	Widening and deepening Alaiparathi puzha for storing water for 3rd crop	25000	25	5	2100
32	Constructing a bridge-cum-cross bar at Kottakadavu (arichira) in Malikan Panchayat	100000	60	12	9150
33	Constructing a diversion at Kounakkal	540000	152	182	45000

(1)	(2)	(3)	(4)	(5)	(6)
34	Constructing V.C.B. across Keovattichal at Kalakundam in Kinannur village	100000	100	20	8300
35	Constructing a bridge-cum-V.C.B. at Kanathai in Panayal village	20000	11	2.2	1650
36	Do. a weir at Moorikunnu in Korindalam village	25000	40	8	2100
37	Improvements to Thinion chal in Cheemeni Panchayat	50000	50	10	4200
38	Escavating a tank at Kiyal in Pullur village	10000	8	1.60	830
39	Constructing a S.W.E. C.B. across Pellikandam in Cheruvathur Panchayat	30000	15	3	2500
40	Constructing a bridge cum cross bar across Madiyam thodu in Ajanur village	60000	25	5	5000
41	Widening and deepening Davankara thodu in Ajannur Panchayat	75000	100	20	6250
42	Constructing a V.C.B. across Nayathingal in Panayal village	15000	15	3	1250
43	Excavating a tank at Vairali in periya	15000	15	3	1250
44	Constructing a V.C.B. at Kanhiravayal in Bella village	35000	15	3	2900
45	Constructing a weir at Kanatham upper konam	15000	15	3	1250
46	Kallanchira across Viya pullur thodu	35000	20	4	2900
47	Constructing a V.C.B. at Kunnath across Puller Stream	25000	16	3.2	2100
	Total	4401000	4595	1892	367580

PART II BUDGETTED ITEMS FOR 1970-71

1	Reclamation of water logged areas in Arikady	400000	110	55	33000
2	Excavating a supply channel from Bombrana to Ichulangode and Shiriya fields etc. and providing with pumpsets	400000	300	60	33000
3	Reclamation of Kaippad lands in Perumba	130000	300	150	13000
4	Diversion weir cum bridge across Kudiyanmala in Eruvassy Panchayat	1650000	510	102	136000
5	Construction of bridge cum regulator across Bekal river	1060000	231	46	90000
	Total	3640000	1451	413	305000
	GRAND TOTAL	8041000	6046	2305	672580